

STRAITS SETTLEMENTS.

The Straits Settlements Medical Report for the year 1914.

POPULATION AND HEALTH.

1. The following table shows the estimated population and the birth and death-rates for the years 1913 and 1914:—

SETTLEMENT.	Estimated mean Population.		Births No.		Deaths No.		Birth Ratio per mille.		Death Ratio per mille.	
	1913.	1914.	1913.	1914.	1913.	1914.	1913.	1914.	1913.	1914.
Singapore ...	320,984	330,199	7,248	8,780	11,327	11,256	22.58	26.60	35.29	34.09
Labuan ...	6,706	6,746	216	185	144	145	32.21	27.42	21.47	21.61
Penang ...	144,252	145,618	3,783	3,731	5,069	5,244	26.22	25.62	35.14	36.01
Province Wellesley	131,910	133,402	3,957	4,371	3,775	3,745	30.00	32.77	28.62	28.07
Dindings ...	8,403	8,915	254	272	302	340	30.23	30.51	35.94	38.14
Malacca ...	130,755	134,225	4,506	4,741	5,333	5,176	34.46	35.32	40.78	38.56
Total ...	743,010	759,105	19,964	22,080	25,950	25,906	26.87	29.09	34.93	34.13

The figures for the European population are:—

	Estimated mean Population.		Births No.		Deaths No.		Birth Ratio per mille.		Death Ratio per mille.	
	1913.	1914.	1913.	1914.	1913.	1914.	1913.	1914.	1913.	1914.
Straits Settlements.	7,685	7,883	161	194	64	98	20.95	24.61	8.33	12.43

The population at the last Census (1911) was 711,951 and is estimated at 759,105 for 1914.

2. These figures are based on previous Census figures calculated by geometrical progression. The reasons for so doing have been stated in previous reports. Since the outbreak of war some 11,000 estate coolies and others have been repatriated to China and India, simultaneously strict regulations were put in force for the suspension of the usual large immigration as far as deck passengers are concerned. The situation thus created has affected the correctness of the estimated population and in consequence the statistics and ratios deduced therefrom. From available figures and calculation it may be roughly taken that during the last 5 months of the year the artificial death-rate shown is lower than that actually occurring and it is probable that the rate is nearer 35.37 per mille than the figures of 34.13 given in my table.

Births.

3. The births registered during the year numbered 22,080 and were equal to a rate of 29.09 per 1,000 persons living. This rate is higher by 2.22 than that recorded in the previous year and is the highest yet recorded since the new Registration law came into force (1897).

Deaths.

4. The deaths from all causes registered in 1914 numbered 25,906, and correspond to a death-rate of 34.13 per 1,000 of population, compared with 34.93 per mille in 1913 and 39.01 in 1912. The average for the last ten years 1904-1913 was 39.93 per mille of population. As usual the largest number of deaths was due to malaria (3,516) and fever unspecified (4,183) eliminating "Convulsions" which showed 3,833 deaths in 1914 and 3,822 in 1913.

The attached chart shows the weekly incidence of deaths from malaria, beri-beri, phthisis and dysentery for the Settlement of Singapore and may be of interest. The death-rate after deducting those dying within 3 months of residence in the Colony and those dying at Quarantine Stations is 33·12 per mille. Except for a small outbreak of cholera for 3 months in the year the Colony may be said to have passed a satisfactory year from the health point of view.

5. The infantile mortality rate, calculated on the birth-rate, excluding those dying who were born outside the Colony, was 250·23 per mille, as against 271·34 per mille in 1913 and 267·21 in 1912.

There were 15 midwives on the Municipal Register in Singapore in the beginning of the year, 5 were licensed during the year and 2 died leaving 18 as available at the end of the year.

The highest ratio of infantile mortality was among Malays.

The employment of trained midwives and nurses by the Municipalities continued during the year and the preparation of a draft bill for the registration of qualified midwives to the exclusion of those unqualified was taken in hand.

6. A new Free Maternity Hospital, 12 beds, with a Matron in charge and a visiting staff, was opened in Victoria Street in September, 1914, and had an increasing number of inmates month by month until the end of the year. In all 29 cases were admitted and 20 booked for the coming year.

Especial attempt is being made to induce the attendance of the poorer class of Malay and other Muhammadan women. Three Malays have already availed themselves of this hospital and upon leaving expressed their satisfaction with the treatment and care received. A special ward, kitchen, and ayah are provided for them and Muhammadan custom is followed compatible with surgical cleanliness and the patient's welfare.

Provision has been made for the training of midwife pupils and students from the Medical School are also in attendance when there is no objection on the part of the patient.

#### European Officials.

7. Table showing the sick, invaliding and the deaths of European Officials of all ranks:—

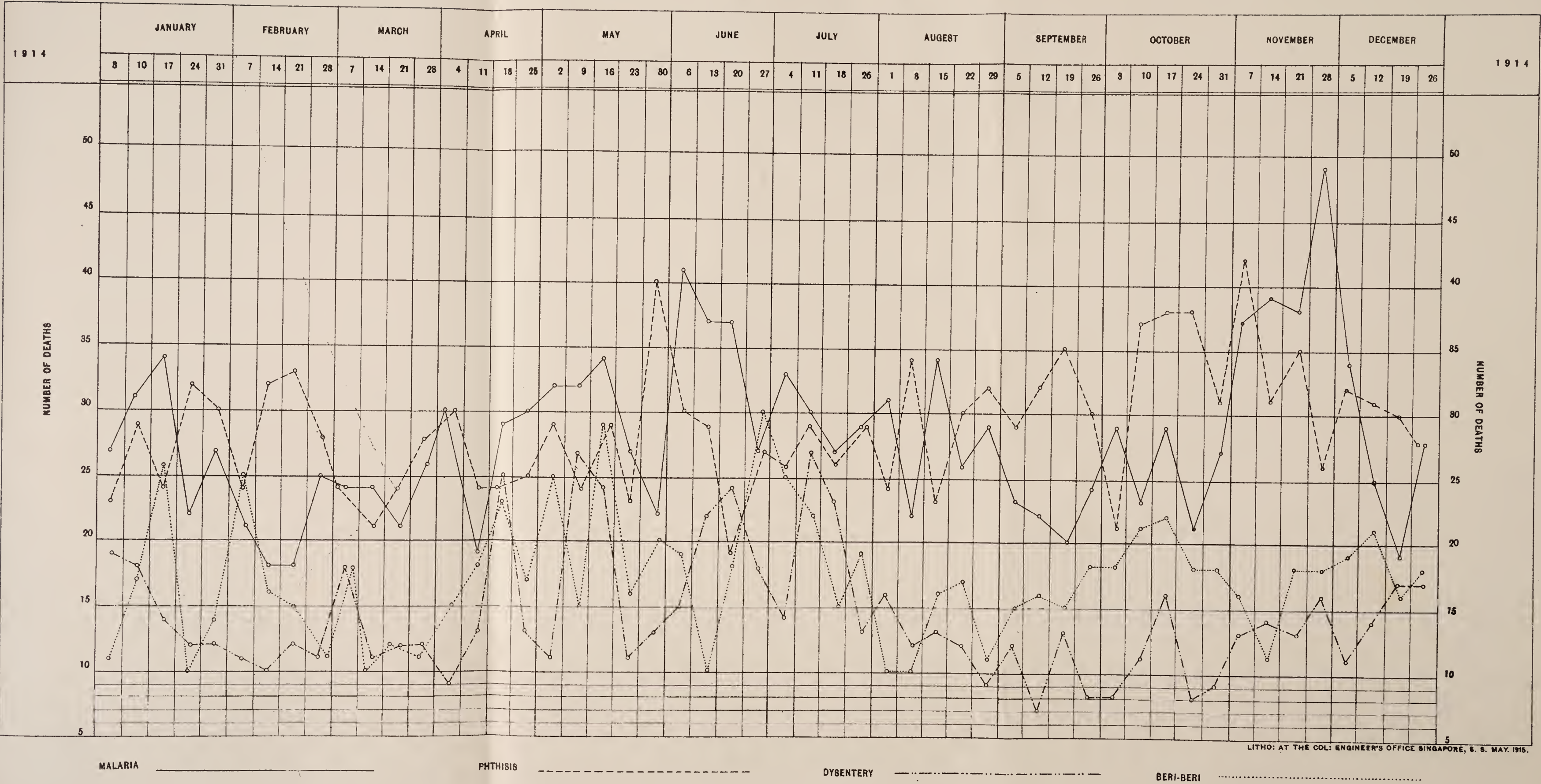
				1914.
(1) Total number of Officials resident	...	...	...	433
(2) Average number resident	...	...	...	377
(3) Total number on sick list...	...	...	...	128
(4) Total number of days on sick list	...	...	...	1,705
(5) Total number invalided	...	...	...	8
(6) Total deaths	...	...	...	4
(7) Total deaths in the Colony	...	...	...	3
(8) Average daily number on sick list	...	...	...	4·67
(9) Average number of days on sick list for each patient	...	...	...	13·32
(10) Percentage of deaths to average number resident	...	...	...	1·06

8. The following table gives the number of cases of zymotic diseases occurring in the Colony during 1913 and 1914, excluding imported cases:—

SETTLEMENT.		PLAGUE.				CHOLERA.				SMALL-POX.			
		1913.		1914.		1913.		1914.		1913.		1914.	
		Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Singapore	...	1	1	16	13	102	83	311	240	23	7	16	3
Penang	...	...	...	...	...	2	2	6	5	15	3	...	...
Dindings	...	...	...	...	...	...	...	14	13	67	16	1	...
Province Wellesley...	...	...	...	...	...	...	...	...	...	11	1	3	...
Malacca	...	...	...	...	...	...	...	...	...	...	...	...	...
Labuan	...	...	...	...	...	...	...	...	...	...	...	...	...
Total ...		1	1	16	13	104	85	331	258	116	27	20	3



CHART SHEWING THE TOTAL WEEKLY DEATHS FROM MALARIA, PHTHISIS, DYSENTERY & BERI-BERI IN SINGAPORE ISLAND FOR THE YEAR 1914







**Plague.**

9. There were 16 cases of plague, all in Singapore, of which 15 were within Municipal Limits. The cases were distributed in different parts of the town and the fact whether they were imported or indigenous could not be ascertained with any degree of certainty. Thirteen ended fatally.

**Cholera.**

10. There were 331 cases with 258 deaths during the year, compared with 104 cases and 85 deaths in 1913. Three hundred and eleven cases with 240 deaths occurred in Singapore where the disease took a somewhat epidemic form during April and May. An outbreak at Tan Tock Seng's Hospital occurred about the same time affecting 11 wards with 37 cases. It began in a Japanese patient admitted for Malaria two days previously. All cases were transferred to the Municipal Isolation Hospital as soon as diagnosed.

**Small-pox.**

11. Twenty cases were reported compared with 116 in the previous year, but three ending fatally. Sixteen cases occurred in Singapore of which 13 were within Municipal Limit. Owing to the closing of St. John's Island Quarantine Station a few cases from ships were transferred to the Isolation Hospital and are included in the above figures.

**Diphtheria.**

12. Ten cases were notified to the Municipal Health Department, Singapore, during the year. The total number of deaths from this cause in the three Settlements was 6, compared with 7 in the previous year. Of the 5 cases treated in the General Hospital, Singapore, one ended fatally.

**Enteric Fever.**

13. The total number of deaths from this cause was 101 of which 67 occurred in Singapore, 29 in Penang and 5 in Province Wellesley, compared with a total of 104 in 1913. Of 73 cases treated in the General Hospital, Singapore, 26 ended fatally and of 45 cases treated in Tan Tock Seng's Hospital, Singapore, 28 died. This large mortality is not surprising considering the condition of the patients on admission and the difficulty of keeping the average native patient under strict dietetic treatment with absolute rest.

**Beri-beri.**

14. The deaths from beri-beri were 1,483, compared with 1,657 and 1,926, in 1913 and 1912, respectively. The rate has decreased steadily since 1911 as shown by the following statement:—

*Deaths from Beri-beri.*

Settlement.	1910.	1911.	1912.	1913.	1914.
Singapore ... ..	1,071	1,220	1,224	1,075	896
Penang ... ..	367	368	349	310	356
Province Wellesley ... ..	6	6	6	12	2
Dindings ... ..	7	9	...	4	2
Malacca ... ..	267	443	344	252	221
Labuan ... ..	19	10	3	4	6
Total ...	1,737	2,056	1,926	1,657	1,483

The following are the number of cases of beri-beri treated in the various hospitals of the Colony for the past five years:—

*Beri-beri cases treated 1910-1914.*

<i>Year.</i>		<i>Total treated.</i>	<i>Deaths.</i>	<i>Percentage.</i>
—		—	—	—
1910	...	2,044	290	14.18
1911	...	2,152	242	11.24
1912	...	2,032	293	14.41
1913	...	2,045	187	9.14
1914	...	1,764	183	10.37

Seven hundred and thirty-five acute cases were treated in Tan Tock Seng's Hospital, Singapore, with 72 deaths and 321 chronic cases with 10 deaths in the Beri-beri Hospital, Pasir Panjang; in the latter hospital but 1 death was directly due to beri-beri.

**Venereal Diseases.**

15. The total treated in all hospitals in 1914 were 3,472 with 34 deaths, compared with 3,038 with 50 deaths in 1913 and 3,318 with 39 deaths in 1912. The incidence of Syphilis among the coolie classes is very high judging from the post-mortem examinations held at the Hospitals and Asylums and reported on by the Pathologist.

Unfortunately prolonged treatment, so essential, is impossible on account of the large number of patients absconding directly the more acute of their symptoms subside.

Neo Salvarsan was largely used for treatment until supplies fell off, but it is hoped that the efforts of British Pharmacologists will soon place a home-made substitute upon the market.

**Phthisis.**

16. Deaths registered from this cause numbered 2,775, compared with 2,424 and 2,582, in 1913 and 1912, respectively. The general improvements and back-lane schemes both in Singapore and Penang were continued during the year, but as stated in previous reports, some time must elapse before their effect on such a disease as this is felt to any appreciable extent. It is contemplated with the transference of the chronic insane from the Pasir Panjang Hospital to new wards building at Tanjong Rambutan, Federated Malay States, to utilize the vacated wards on the sea coast as a hospital and home for advanced cases of Phthisis from the town, cases hopeless possibly from a curative point of view but which undoubtedly form foci of infection in the crowded tenements where they now live.

**Dysentery.**

17. The deaths from this cause totalled 1,097, as against 1,016 and 1,549, in 1913 and 1912, respectively. Of the cases treated in hospitals which totalled 1,470, 530 died. As stated under head 12 which also applies to this disease, the majority of the cases come for treatment only when in practically the last stages of the disease. During the year one ward in Tan Tock Seng's Hospital was placed under the Government Pathologist (Dr. FINLAYSON) for the treatment of this disease and an interesting report from him is attached under Appendix J.

**Health Officers.**

18. Three new appointments were sanctioned, one each for Singapore, Penang and Malacca, to work in the rural districts. Drs. SHEPPARD, SMART and FITZGERALD took up the work for varying periods during the year but owing to officers of the department volunteering for work under the Army Council at home a shortage has occurred and it is probable that systematic work will have to be postponed.

**Malaria.**

19. The deaths from Malaria numbered 3,516, as compared with 2,878 in 1913 and 4,303 in 1912. The corresponding figures for fevers unclassified were 4,183, 4,746 and 4,194, respectively. No doubt many Malaria cases are returned under the latter head by the Registering Officers who have to arrive at the cause of death from information obtained from relatives and friends. The admissions to the hospitals of the Colony, all cases being diagnosed microscopically, were 8,129 with 528 deaths, as against 8,102 with 499 deaths and 9,172 with 660 deaths in 1913 and 1912.



The following preventtive works were undertaken:—

*Singapore.*—The anti-malarial work in the Telok Blangah District was almost completed during the year. A swamp at the back of Tan Tock Seng's Hospital has been dealt with at the joint expense of Government and the owners of the land. Three gangs of coolies were maintained by the Municipality for the cutting of drains, clearing undergrowth, collection and removal of tins and such minor works.

During the latter half of the year Dr. SMART carried out the duties of Health Officer outside Municipal limits and attended to anti-malarial and other work.

Monthly returns of all malaria cases admitted to hospitals are sent to the Health Officers with the addresses of patients and in this way new foci of disease were discovered and dealt with. The spleen rate on the whole amongst school children has improved considerably coincident with anti-malarial work done in the neighbourhood of the schools. This has been especially so in the case of the Teluk Blangah and Kampong Java Schools. A special report by Dr. SMART is attached Appendix L.

*Penang.*—Two thousand one hundred and seventy-three children were examined for enlarged spleen, the percentage affected was found to be 7.92.

On drainage of towns and villages and the filling in of marshes, inclusive of Province Wellesley and Municipal expenditure, the sum of \$135,521 was spent. An average of 95 men per month was employed on general anti-malarial work within Municipal limits. Twenty-six pounds of quinine were partly sold and distributed gratis during the year throughout the Settlement.

*Malacca.*—A sum of \$4,990 was spent by the Municipality on drainage and reclamation of marshes.

The following additional works were completed during the year:—

- (1) The making and concreting of 1,785 lineal feet of roadside drains at Pulau Sebang.
- (2) Clearing and weeding of Duyong River.
- (3) Clearing and deepening Lorong Pandang Drain.
- (4) Clearing and deepening Sungai Malim.

The cost of the above four items was \$4,514.

About 15 lbs. of quinine were distributed gratis.

*Labuan.*—Of the important works a gully about a quarter of a mile in length in which anopheline larvæ were found was filled in at a cost of \$2,000. Several of the drains near Government House were put underground in earthen pipes.

#### Ankylostomiasis

20. The numbers treated in the hospitals of the Colony for the last five years are as follows:—

			<i>Remained from pre- vious year.</i>	<i>Admitted during the year.</i>	<i>Total treated.</i>	<i>Deaths.</i>
			—	—	—	—
1910	...	...	40	280	320	84
1911	...	...	33	586	619	150
1912	...	...	42	875	917	173
1913	...	...	91	982	1,073	159
1914	...	...	33	1,098	1,131	174

Special reports on this disease by Dr. KEITH, Acting Government Pathologist, Dr. WEBSTER, Medical Officer, Province Wellesley, and Dr. DUNCAN, Medical Officer, Penang, will be printed separately and circulated.

The disease is accorded more attention each year and the increasing figures are possibly to some extent due to this reason.

The provisions of the Estates Health Ordinance is the only weapon in Government hands to combat the affection and this with the advent of the new health staff should, in time, be effectual in dealing with estate sanitation satisfactorily.

21. Hospitals and work done in all Settlements:—

Year.	Number Treated.			Number of Deaths.			Percentage of Deaths to Total Treated.		
	Europeans.	Natives.	Total.	Europeans.	Natives.	Total.	Europeans.	Natives.	Total.
1910 ...	1,463	34,221	35,684	64	4,465	4,529	4'37	13'05	12'69
1911 ...	1,702	45,260	46,962	82	6,042	6,124	4'82	13'33	13'04
1912 ...	1,794	40,420	42,214	87	4,566	4,653	4'85	11'29	11'02
1913 ...	2,255	37,470	39,725	82	3,853	3,935	3'66	10'28	9'09
1914 ...	2,555	37,926	40,481	111	3,642	3,753	4'34	9'6	9'27

**GENERAL HOSPITAL, SINGAPORE.**

**New Native Hospital.**

22. There was no progress beyond a decision on the plans of the new Native Hospital referred to in my previous report.

**European Wards.**

A special European Attendant was obtained from England for the better nursing of delirious and observation patients.

**TAN TOCK SENG'S HOSPITAL.**

23. The number of patients treated at this Hospital is as follows:—

1910 ...	...	...	...	...	...	9,978
1911 ...	...	...	...	...	...	13,398
1912 ...	...	...	...	...	...	13,274
1913 ...	...	...	...	...	...	12,025
1914 ...	...	...	...	...	...	12,015

The average daily sick was 652, compared with 615'11 and 590'10, in 1913 and 1912, respectively.

A cholera epidemic broke out on the 12th April. There were in all 37 cases affecting 11 wards. The want of fencing to this hospital and the habits of the majority of its inmates prevent any satisfactory conclusion as to the cause of the outbreak.

The following new works were sanctioned during the year:—

- (1) Erection of a second operating theatre.
- (2) Extension of kitchen.
- (3) Erection of a small Pathological Laboratory.
- (4) Quarters for Surgeon and 4 additional dressers.

Items 1 and 4 were nearing completion at the end of the year.

The admissions of Japanese to Tan Tock Seng's Hospital which had risen from 43 in 1907 to 627 in 1913 has dropped to 465 for 1914. Of these admissions 251 were suffering from some form of malaria with a mortality of 2 cases only. One hundred and nineteen of these patients stated they had previously worked upon rubber estates in Johore. Three patients suffered from Blackwater fever, all recovered. But 3 patients were the subjects of Ankylostomiasis.



Of the total under treatment 13 died giving a death-rate of only 2·8 per cent. An additional Senior Surgeon was appointed for Native Hospitals generally and Mr. C. J. SMITH, F.R.C.S., was transferred as such from the Federated Malay States Service on the 18th August.

#### LUNATIC ASYLUM.

24. The daily average number of patients in the Asylum was 473, compared with 455 and 393 in 1913 and 1912. The maximum number on any day was 508, the largest yet recorded.

The new wards at Tanjong Rambutan, Perak, to accommodate 200 chronic patients are now in course of erection and when taken over will relieve the existing overcrowding.

#### PENANG HOSPITALS.

25. Dr. GRAY, Surgeon, gives an interesting account of the wounded from the Russian Cruiser *Zhemchug* which was sunk in the Harbour by fire from the *Emden* on 28th October. There were 131 cases brought to Hospital of whom 96 were suffering from injuries. The resources of the hospital were taxed to the utmost to deal with such a sudden influx of patients but with assistance from the private practitioners and Municipal Officers of the town as well as of many ladies, of whom some were trained nurses, the situation was satisfactorily dealt with. Praise is due to all who offered such ready and willing help at a time when so needed. Many ladies assisted the nursing staff for weeks after in preparing dressings, feeding patients, etc.

#### MALACCA HOSPITALS.

26. In November the new European Cottage Hospital with adjoining Nurses' quarters was completed and opened. A Nursing Sister with Staff Nurse and probationer were placed in charge. The total numbers treated in all the Malacca Hospitals show an increase, compared with 1913 :—

1912	...	...	Total treated	...	...	5,679
1913	...	...	do.	...	...	5,600
1914	...	...	do.	...	...	6,230

It is pleasing to note an increase in the Malay admissions.

The Medical Mission in Malacca towards which Government contributes \$1,000 annually and which is under Dr. ELSIE WARREN with a small nursing staff continues to do good work and brings Western Medical treatment home to many Malay women and children in the outlying villages who would otherwise go untreated. Statistics of her work are attached to Dr. KEUN'S report Appendix D.

#### ALL HOSPITALS.

27. The total treated and deaths in the hospitals of the Colony for some of the more important diseases are shown in the subjoined statement with the corresponding diseases and deaths in 1912 and 1913 :—

Disease.	1912.		1913.		1914.	
	Total treated.	Deaths.	Total treated.	Deaths.	Total treated.	Deaths.
Malarial Fever ...	9,474	660	8,314	499	8,129	528
Dysentery ...	1,845	654	1,479	516	1,470	530
Diarrhœa ...	940	235	878	195	720	127
Beri-beri ...	2,032	293	2,045	187	1,764	183
Phthisis and Tuberculosis	1,111	564	1,014	493	1,226	575
Enteric ...	133	63	157	56	142	67
Ulcers ...	4,232	3	3,320	4	3,266	2
Venereal Diseases ...	3,522	39	3,216	50	3,472	34
Ankylostomiasis ...	919	173	1,073	159	1,131	174

### POLICE FORCE.

28. In Singapore there were 4,528 out-patients attended to by the Police Surgeon, compared with 3,605 in 1912 and 5,123 in 1913, respectively. Of these 621 were sent to the General Hospital for treatment. Of 213 recruits examined, 170 were passed as fit.

### ESTATES.

29. Dr. SMART was appointed the first Health Officer for country districts in Singapore and assumed duty on the 15th April. An interesting report by him on the estates in Singapore as well as on schools and other matters is appended—See Appendix L.

Dr. SHEPPARD was appointed Health Officer for Province Wellesley. Owing to shortage of officers, the Health Officer provided for Malacca, Dr. FITZGERALD, had to be recalled to Singapore for other duty after but a short period of work. His duties will for the present be carried out by the Chief Medical Officer, Malacca.

No outbreak of epidemic disease has occurred in the estates of the Colony during the year.

### OUT-DOOR DISPENSARIES.

30. The total attendances at the out-door dispensaries were 43,658, compared with 40,773 in 1913. The principal diseases treated were Malaria, Rheumatism, Venereal Disease, Bronchitis, Ulcers and injuries. The out-door dispensary at Jalan Klapa, Singapore, shows a steady increase of patients and being situated in the Malay quarter of the town its usefulness essentially consists of introducing Western treatment to that race. Of the 793 females attending 465 or 58.63 per cent were Malays.

### VACCINATION.

31. A tabulated statement is given under Appendix F. All vaccinations within Municipal limits in Singapore are now done by the Municipality. Having the aid of a staff of Sanitary Inspectors the Municipality have special facilities for locating unvaccinated children and already a marked improvement is to be noticed in the percentage of children vaccinated.

### QUARANTINE.

#### Singapore.

32. The number of passengers and crew examined on arrival was 281,420 and 121,163, respectively, as compared with 390,652 and 116,271 in 1913. From August, 1914, the Station at St. John's Island was used for the continual reception and discharge of numbers of coolies for repatriation, immigration deck passengers being stopped. Up to the end of July the number quarantined was 18,193, the greatest number admitted in any day being 1,765 and the maximum total in residence on any day being 2,376. On one day there were no contacts at all on the station, viz., on 1st January, 1914.

A new scheme to provide accommodation at Lazarus Island, adjoining the Station Island, for immigrants to complete their quarantine period, was considered during the year but has now been postponed.

At the outbreak of war it was decided to utilize a portion of the Quarantine Station as a camp of internment for enemy prisoners of war. This portion was cleared and prepared by 11th August upon which date the first batch were admitted. On 30th October all prisoners were removed from the Island. The general health of the prisoners was good throughout, but 7 were admitted to hospital and these all recovered.

#### Penang.

One hundred and forty-five thousand two hundred and three passengers and 69,864 crew were examined, compared with 207,481 and 65,042, respectively, in 1913. At the Quarantine Station, Pulau Jerejak, 48,399 passengers were landed as compared with 53,937 the previous year.

The new disinfecting launch *Kite* was put in use from 3rd March.

The normal work at the station was largely stopped during the latter part of the year consequent on the cessation of immigration.

The Quarantine Station at Singapore being unavailable the returning pilgrims from Mecca had all to be accommodated at Pulau Jerejak. The ships bringing them, nearly all infected with small-pox, arrived within a period of three weeks in November and December instead of being spread over about 3 months as is usually the case.



A total of 13,682 pilgrims with 54,728 packages of luggage were dealt with and 20,000 vaccinations performed. The capabilities of the station were strained to the utmost but with assistance from Singapore and good work upon the part of the whole staff the situation was successfully handled without undue overcrowding or delay to ships.

#### MEDICAL SCHOOL.

33. The total number of students on the roll was 82 of whom 16 joined during the year, against 21 new students in 1913 and 23 in 1912. The standard of the examinations is being gradually improved to meet the requirements of the General Medical Council of Great Britain and it is to be hoped that in the near future our full course will obtain recognition.

#### Hospital Assistants.

These students take a two years' course at the school and are mostly for service under the Colonial or Federated Malay States Government. Since the opening of the school 84 such students have passed out.

#### PATHOLOGICAL DEPARTMENT.

34. A considerable amount of routine work has to be done by this department but in addition attention is paid to original research into some of our more prevalent diseases and the reports of Drs. FINLAYSON and KEITH, Appendix J, are of great interest.

It should have been mentioned in my report for 1913 that this department is no longer maintained at the joint cost of the Government and the Municipality as the latter have now their own Bacteriologist.

#### FINANCIAL.

35. The expenditure on votes for the service of the Medical Department falling under the control of the Hospital Board amounted to a total of \$338,942, against an estimated expenditure of \$344,127.

There were several savings and excesses and some of the chief items are detailed below :—

#### Savings.

<i>Vote.</i>	<i>Settlement.</i>	<i>Amount Voted.</i>	<i>Amount Expended.</i>	<i>Saving.</i>
—	—	—	—	—
		\$	\$	\$
1. Medicines	... Penang	... 9,000	6,497	2,503
2. Do.	... Malacca	... 3,000	2,014	986
3. Upkeep of Quarantine Stations	... Penang	... 20,000	11,213	8,787
4. Free Maternity Hospital, Victoria Street	... Singapore	... 2,760	1,555	1,205

The savings under items 1 and 2 were largely due to the late arrival of the Crown Agents' accounts and the expenditure being debited to the succeeding year in consequence and are therefore only nominal savings. The saving under item 3 was due to the closing of the Quarantine Station on the outbreak of the war. Item 4, this hospital was not opened until October 1st.

#### Excesses.

<i>Vote.</i>	<i>Settlement.</i>	<i>Amount Voted.</i>	<i>Amount Expended.</i>	<i>Excess.</i>
—	—	—	—	—
		\$	\$	\$
1. Medicines	... Singapore	... 19,000	21,085	2,085
2. Transport	... Do.	... 5,100	7,192	2,092
3. Contingent Expenses, Diets, etc.	... Malacca	... 30,000	37,855	7,855
4. Furnishing Nurses' Home and European Hospital	Do.	... Nil.	1,996	1,996

*Item 1.*—Medicines. Extra provision had to be made to meet the cost of a large stock of dressing (\$1,523) and quinine (\$1,310) bought locally on the outbreak of war.

*Item 2.*—Owing to the addition of a Health Officer and the grant of several extra fixed allowances during the year an extra amount of \$2,000 was voted.

*Item 3.*—The number of patients treated in the Malacca hospitals rose from 5,600 in 1913 to 6,230 in 1914 and a corresponding increase in expenditure was accordingly provided for.

*Item 4.*—A new ward for Europeans with a European Nursing Staff was added during the year.

#### Revenue.

36. The revenue collected from all hospitals and dispensaries for treatment bills is as follows:—

Settlement.	Estimated.		Actual.	
	1913.	1914.	1913.	1914.
	\$	\$	\$	\$
Singapore and Labuan ...	50,600	53,600	56,634	55,801
Penang and Province Wellesley ...	21,000	20,000	15,901	26,784
Malacca ... ..	6,000	6,500	6,972	7,540
Total ...	77,600	80,100	79,507	90,125

The revenue from all sources for 1914 was \$17,181 less than the Estimate of \$131,925. Of the revenue items a satisfactory increase over the estimated figures in Hospital bill collections is noted in the three Settlements:—

			\$
Singapore increase	...	...	4,153
Penang „	...	...	4,575
Malacca „	...	...	1,040
Total	...		9,768

In Singapore with a drop in the number of patients treated an increase in treatment bills is due chiefly to the new scale of fees and Surgeons' charges being introduced during the year. In Penang and Malacca increases of 832 and 630, respectively, in patients treated have no doubt brought in the extra revenue.

Against this extra revenue, however, a large deficit under Quarantine and Port Health charges is to be noted both at Singapore and Penang, viz., \$23,308 in Singapore due to the revision of the charge of 16 cents per day collected from Federated Malay States on every coolie for Federated Malay States detained at St. John's Island and \$4,530 in Penang due to the closing of the immigrant traffic on the outbreak of war.

#### MISCELLANEOUS.

37. Twenty-nine Medical Practitioners were registered during the year making a total of 381 on the Register on 31st December, 1914, after excluding those dead and those whose addresses are not in the Colony or Federated Malay States.

Eighty-seven licences were issued under the Deleterious Drugs Ordinance.

Sixty-three licences were issued under the Poisons Ordinance.

Two Dentists passed a qualifying examination held at the Medical School.

The following were the Hospital Board Members at the close of the year excluding Government (Ex-officio) Members:—

Drs. J. A. GLENNIE and N. BLACK and Messrs. F. J. HALLIFAX, F. M. ELLIOTT and GOH TAIK CHEE.

W. GILMORE ELLIS,  
Principal Civil Medical Officer, S. S.

SINGAPORE, 1st June, 1915.



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## APPENDIX A.

## SINGAPORE.

## GENERAL HOSPITAL.

REPORT BY DR. F. B. CROUCHER, M. B., C. M., *Chief Medical Officer-in-charge.*

1. *Hospital Buildings.*—A two-storeyed addition was made to the European Hospital, giving an Observation Room downstairs, and a Sterilising Room upstairs. The former has been wanted for long and has been occupied nearly the whole time since it has been built.

2. Mr. H. R. A. DAY was appointed Secretary on 1st January.

3. *Work done.*—Comparative table showing the total number of patients treated in all wards during the past five years, (exclusive of the maternity patients):—

Year.	European Wards.	Died.	Percent-age.	Native Wards.	Died.	Percent-age.
1910	832	33	3·97	3,818	368	11·69
1911	844	39	4·62	4,564	485	10·62
1912	749	39	5·21	3,584	361	10·07
1913	791	38	4·8	3,509	278	7·92
1914	941	56	5·84	3,482	326	9·25

4. Five hundred and seventy-two cases were sent in by the Police for treatment as free cases.

5. Of the above 56 deaths in the European wards, 22 took place within 48 hours of admission, and of the deaths in the Native wards, 108 took place within 48 of admission. Deducting these, the death-rate for the European wards was 3·50 per cent, and for the Native wards, 5·8 per cent.

## First Second and Third Class Wards.

6. The first and second-class wards were as usual overcrowded at times, the greatest number of patients in one day being 24 for nominally 16 beds. The greatest number of patients in the third-class wards was 39 for 34 beds.

The chief diseases treated in these wards are shown below, together with a comparative statement for the previous four years.

Patients in these wards include Europeans, Eurasians and better class natives.

Disease.	1914.	1913.	1912.	1911.	1910.
Malaria	204	198	221	239	211
Enteric Fever	12	18	21	14	9
Phthisis	25	20	10	15	15
Dysentery	43	19	35	34	23
Venereal Disease	61	63	74	67	30
Abscess of Liver	2	3	2	6	5
Appendicitis	19	6	3	16	8
Dengue	10	29	2	...	...
Injuries	72	47	104	66	48

Other diseases of interest were:—Blackwater Fever 2, Diphtheria 3.

The chief causes of deaths were:—Enteric Fever 4, Pneumonia 5, Septicæmia 2, Uræmia 2, Tuberculosis 5, Nephritis 6, Dysentery 4, Blackwater Fever 1, Peritonitis 6, and Acetonuria 1.

*Operations.*—There were 261 operations performed in these wards during the year, the chief of which were:—Hernia 12, Appendicectomy 11, Other Laparotomies 8, Resection and Suture of Intestine 5, Wiring and Plating Bones 5, Amputations 3, For Hepatic Abscess 2, Cæsarian Section 1, and Nephrectomy 1.

#### Native Wards.

7. The greatest number of patients on any one day in the native male wards was 161 as against 173 in 1913.

The chief diseases for which patients were admitted, together with a comparative table showing the number treated during the previous five years are shown below:—

Disease.	1914.	1913.	1912.	1911.	1910.	1909.
Malarial Fever ...	731	582	829	1,616	1,117	736
Injuries ...	950	944	1,017	865	889	768
Venereal Disease ...	152	223	271	278	371	246
Dysentery ...	101	54	124	149	119	130
Enteric Fever ...	57	57	37	76	42	69
Beri-beri ...	70	51	100	68	90	80
Pneumonia ...	55	49	46	33	...	54
Cholera ...	* 3	* 1	* 5	* 13	...	* 5

Other diseases were:—Phthisis 78, Bronchitis 48, Ulcers 79, Diphtheria 2, Leprosy 1, Diseases of the Eye 44, Empyema 2, Diseases of the Heart (valvular) 30, Hernia 15, (8 strangulated).

The chief causes of death were:—Beri-beri 19, Dysentery 40, Diphtheria 1, Enteric Fever 22, Malaria 24, Pneumonia 22, Nephritis 14, Phthisis 47, Strangulated Hernia 2, Intestinal Obstruction 1, Diseases of the Heart 8, Injuries 62, and Ankylostomiasis 3.

Operations in these wards, native male and female, numbered 861. The chief were:—Amputations 14, For Hernia 11, For Hæmorrhoids 11, For Hare Lip 5, Other Plastic Operations 11, Appendicectomy 4, Other Laparotomies 9, Trephining 7, For Mastoiditis 6, For Hydrocele 6, Resection and Suture of Intestines 5, Splenectomy 5, For Fistulæ and Sinuses 25, Wiring and Plating bones 3, Hepatic Abscess 2, Ovariectomy 2, and Nephrectomy, Hysterectomy, and Laminectomy, 1 each.

Admissions for Malarial Fever show an increase as compared with 1913. The number of cases was 731 as against 582 for the previous year, and account for 24 deaths.

Twelve cases of beri-beri were transferred to Pasir Panjang.

#### Native Police.

8. There were 611 admissions to Hospital as compared with 653 in 1913. They included 380 Sikhs, 162 Malays, 42 Tamils, and 27 Chinese.

The chief diseases under treatment were:—Malaria 213, Bronchitis 41, Venereal Diseases 35, Ulcers 21, Dysentery 9, No Discoverable Disease and Malingering 31, Phthisis 4, Dengue 1, Conjunctivitis 10, and Diarrhœa 6.

\* Transferred to Infectious Diseases Hospital.



There was an increase in the number of cases of Malaria under treatment, 213 as against 153 in 1913.

There was one death, a Chinese, from Abscess of Liver.

9. *X-ray Apparatus*.—The X-ray Apparatus was working well during the greater part of the year, and the troubles due to moisture of the atmosphere were to a great extent overcome. In addition to the radiographic work, 21 cases, including Epithelioma, Ulcers, Eczema, and Ringworm, were under treatment by exposure to the Rays.

#### Maternity Wards.

10. The number of admissions shows a further increase on previous years, as the following figures show:—

	1914.	1913.	1912.	1911.	1910.	1909.
	—	—	—	—	—	—
Number of Admissions.	343	327	263	233	199	173

Forty patients were treated by their own Medical Attendants.

The nationalities of those admitted were as follows:—

Of European Descent	...	..	...	72
Eurasians	...	...	...	12
Chinese	...	...	...	195
Tamils	...	...	...	27
Japanese	...	...	...	12
Sikhs	...	...	...	19
Hindus	...	...	...	4
Javanese	...	...	...	1
Malay	...	...	...	1
Total ...				343

The average weight of the European and Eurasian male infants was 7 lbs. 9½ ozs., and of the female 6 lbs. 8⅞ ozs. The average weight of the native babies was, males 6 lbs. 5⅓ ozs., females 5 lbs. 14⅔ ozs.

There were 26 premature and still-births.

The more serious cases included Post Partum Hæmorrhage 3, Ante Partum Hæmorrhage 1, Transverse Presentation necessitating Decapitation 1, Eclampsia 1, Pneumonia 1, Peritonitis 1, Perforation and Craniotomy were performed on two occasions, and Forceps were applied in 21 cases.

There were 7 deaths due, to Rupture of Uterus 1, Eclampsia 1, Shock and Hæmorrhage 1, Shock and prolonged labour 1, Pneumonia 2, and Ankylostomiasis 1.

The number of native midwives under instruction at the beginning of the year was 4 all of whom received certificates.

Four more finished their training and received certificates during the year, and four were under instruction at the end of the year.

#### PRISON HOSPITAL.

REPORT BY DR. H. W. FURNIVALL, M.B., B.S., *Medical Officer*.

1. The sanitary condition of the Prison was good, and the health of the prisoners satisfactory.

2. There were 1,047 admissions to hospital, which with 39 remaining at the end of 1913, gave a total treated of 1,086.

3. The average daily sick was 39·8.

4. *Enteric Fever*.—One fatal case occurred in a Chinese short-sentence prisoner, who had been employed as a scavenger.

5. *Beri-beri*.—Five cases were admitted with no deaths. No case occurred in the Prison.

6. *Europeans and Eurasians*.—Only four were admitted to hospital out of a total number of 65. There were no deaths.

7. *Criminal Prison*.—The total population was 3,663, and the average daily number 740. Nine hundred and seventeen were admitted to hospital with an average daily sick of 35. There were 20 deaths, giving a death-rate of 2·09 to total treated, and 0·54 to total population.

8. *Civil Prison*.—The total population was 3,522, and the average daily number 78.

The number admitted to hospital was 33, and the average daily sick 0·92. There were 5 deaths, giving a death-rate of 14·70 to total treated, and 0·14 to total population.

9. *House of Detention*.—The total population was 369, and the average daily number 26. There were 97 admissions to hospital with an average daily sick of 3·6.

Seven deaths occurred giving a death-rate of 7·14 per cent to total treated and 1·89 to total population.

10. The principal diseases treated were:—Diarrhœa, Colitis and Dysentery, 215, with 10 deaths. Fevers including Malaria 143 with 3 deaths. Skin diseases 136, Dyspepsia 64 and Eye diseases 54.

11. *Tuberculosis*.—There were 8 admissions with 4 deaths, against 7 and 4 in the previous year and 20 and 10 in 1912.

12. Table showing admissions and deaths of various classes of prisoners for 1912, 1913 and 1914:—

	Criminal.			Civil.			Vagrants.		
	1912.	1913.	1914.	1912.	1913.	1914.	1912.	1913.	1914.
A. Total population in Prison ...	3,218	3,346	3,663	3,636	3,183	3,522	488	255	369
B. Average daily number ...	770	713	740	95	66	78	35	25	26
C. Total treated in hospital ...	901	972	954	39	29	34	118	65	98
D. Percentage C to A ...	27·9	29·0	26·0	1·07	0·9	0·9	24·1	25·4	26·5
E. Total deaths in hospital ...	18	13	20	4	1	5	19	5	7

13. *Deaths in Hospital*.—There were 32 against 19 in 1913 and 41 in 1912. Five deaths occurred within 24 hours of admission to hospital and 12 occurred in prisoners who came into prison with the disease from which they died.

14. *Suicide*.—There was one. A Tamil long-sentence prisoner was found hanging in his cell.

15. *Execution*.—There was one.

16. *Transfers to Lunatic Asylum*.—There were four, two criminal and two civil prisoners.



## TAN TOCK SENG'S HOSPITAL, SINGAPORE.

REPORT BY DR. J. R. MCVAIL, M.B., Ch. B., *Medical Officer*.1. *Work done:—*

Remained 31st December, 1913	...	...	...	661
Admitted 1914	...	...	...	11,354
Total				12,015
Discharged	...	...	...	10,240
Died	...	...	...	1,196
Remained on 31st December, 1914	...	...	...	579
Total				12,015

2. The average daily sick was 652, as compared with 615·11 in 1913.

3. The percentage of deaths among cases treated to a conclusion was 10·45 per cent, against 10·64 per cent in 1913, 12·26 per cent in 1912, 14·33 per cent in 1911 and 15·71 per cent in 1910.

4. There were 1,196 deaths during the year. Of these, the number dying within 24 hours of admission was 138. Deducting these, the death-rate is 9·43 per cent.

5. The average daily stay in hospital of those discharged was 11·91 days, of those dying 10·83 and of those remaining 171·39. The corresponding figures for last year were of those discharged 12·23 days, of those dying 19·13 and of those remaining 122·57.

The principal diseases treated were:—Malaria, Ankylostomiasis, Dysentery, Beriberi, Venereal Diseases, Phthisis, Injuries, Abscess, Hepatic Cirrhosis, Pneumonia, Bronchitis, and Enteric Fever. Details of some of these are given below.

6. In addition to the 79 cases of Malaria remaining from 1913, 2,625 cases were admitted during the year. Of these 77 remain in hospital. There were 126 deaths giving a mortality of 4·79 per cent. Last year the death-rate from this disease was 5·4 per cent.

<i>Types of Malaria.</i>	<i>Total Cases Treated.</i>		<i>Deaths.</i>
Benign Tertian	...	437	16
Quartan	...	173	11
Malignant Tertian	...	851	73
Chronic	...	509	8
Mixed	...	41	...
Unclassified	...	693	18
Total		2,704	126

Systematic blood examinations were carried out in all cases. The following results were obtained by the Tan Tock Seng's Staff:—

Malignant Tertian	...	...	...	909
Benign Tertian	...	...	...	506
Quartan	...	...	...	209
Mixed	...	...	...	60
Negative	...	...	...	2,486
Total				4,170

7. *Dysentery*.—Five hundred and fourteen cases of Dysentery were treated during the year. Of these 238 died giving a mortality of 45·67 per cent. Last year the mortality was 52·1 per cent.

Dr. FINLAYSON took charge of the Dysentery ward during most of the year. He has written a special report on the disease.

8. *Beri-beri*.—Seven hundred and thirty-five cases of beri-beri were treated during the year. Of these, 42 remain in hospital. There were 72 deaths giving a mortality of 10·38 per cent. The mortality last year was 14·4 per cent. One hundred and forty-seven cases of chronic type were transferred to Pasir Panjang Hospital.

The cases admitted during the year numbered 666. Their nationalities were as follows :—

<i>Nationalities.</i>				<i>Total.</i>	<i>Deaths.</i>
—				—	—
Chinese	...	...	...	595	67
Malays	...	...	...	11	4
Japanese	...	...	...	37	...
Indians	...	...	...	4	1
Others	...	...	...	19	...

9. *Enteric Fever*.—One case of Enteric Fever remained over from 1913, 44 cases were admitted during the year, of which two are still in hospital. There were 28 deaths giving a mortality of 65·11 per cent. Last year the mortality was 50 per cent.

10. Venereal diseases were as follows :—

				<i>Cases.</i>	<i>Deaths.</i>
				—	—
Syphilis, Primary	...	...	...	192	...
„ Secondary	...	...	...	1,303	13
„ Tertiary	...	...	...	69	3
Gonorrhœa	...	...	...	184	...
Gonorrhœal Arthritis	...	...	...	48	...
Syphilitic „	...	...	...	16	1
Total				1,812	17

• Injections of Neo salvarsan were given in 122 cases of Syphilis. Two deaths occurred in patients injected, one from Amœbic Dysentery, the other from septic absorption in a formidable case of ulcerative syphilis. Neo salvarsan was in no way responsible for either of them.

11. *Helminthiasis*.—Three hundred and eighty-seven cases of Ankylostomiasis were treated during the year. Sixteen cases remain in hospital. Among the 371 cases treated to a conclusion there were 44 deaths, a mortality of 11·85 per cent. Last year among 414 cases the death-rate was 11·9 per cent.

Twenty-four of our patients showed intestinal symptoms, and in some cases Anæmia, that were proved to be due to *Ascaris Lumbricoides* only. Among the Japanese particularly this form of parasite appears to cause great pain and derangement of the functions of the intestinal tract.

There were two cases of *Schistosomiasis Japonicum*. Both were Hokiens and both died. We were unable to trace the origin of their infection.

One thousand three hundred and thirty-two stools were examined during the year with the following results :—

Ankylostomiasis ova	...	...	...	...	496
Round worm „	...	...	...	...	85
Whip „ „	...	...	...	...	38
Round and Whip worm ova	...	...	...	...	14
Ankylostomiasis and round worm ova	...	...	...	...	113
„ „ Whip „ „	...	...	...	...	49
„ Round worm and whip worm	...	...	...	...	29
Negative	...	...	...	...	508
Total					1,332



12. *Tuberculosis, General and Pulmonary*.—Four hundred and twenty-three cases of Tuberculosis have been under treatment during the year, 376 Pulmonary and 47 General and Glandular. There were 219 deaths, a mortality of 55·44 per cent. Last year the mortality was 51·2 per cent.

Five hundred and seventy-nine Sputa were examined during the year. The Tubercle Bacillus was found in 270 cases.

13. *Ulcers*.—One thousand two hundred and seventy-six cases of ulcers were admitted during the year.

Mr. THUMBOO, Assistant Surgeon, experimented with an old form of dressing that has lately been revived:—pine-wood sawdust. The results were very satisfactory. It appears to possess every property of a surgical dressing. We also tried the sawdust of local woods of which an unlimited supply can be obtained from the local mills. Unfortunately it has proved most unsatisfactory. It has highly irritating qualities which prevent its use in any way. We are trying to obtain a constant supply of pine-wood sawdust. So far it has proved the cheapest first-class surgical dressing I am acquainted with.

14. *Tetanus*.—There were four cases of Tetanus during the year of which 3 died.

Two of them were admitted with Tetanus; both died.

One was admitted with what appeared to be an ordinary septic ulcer of the toe. He developed symptoms of Tetanus within 36 hours of admission and died 24 hours later.

The fourth case was a little boy admitted with gangrene of the leg which was amputated. He recovered.

The injection of Antitetanic Serum in cases of earth-soiled wounds, began early in 1913, has proved eminently successful. The cases in which it is required are fairly obvious. In two years we have used rather less than 60 tubes of serum. Yet this has sufficed to prevent the development of Tetanus in every one of the dangerous cases of earth-soiled wounds that have been admitted to the hospital in that time.

15. *Cholera*.—On 12th April a Cholera epidemic began in the hospital which lasted till 7th June. In all there were 37 cases. Eleven wards were affected. It began in a Japanese patient who had been admitted to hospital two days previously for Quartan Malaria.

The second outbreak occurred on 4th July and lasted till 29th July. There were six cases from two wards. On the 18th August, two cases occurred in Ward 14. Between the 14th and 17th September, two cases occurred in Ward 18.

As soon as the cases were diagnosed they were sent to the Moulmein Road Hospital for infectious diseases.

One curious feature of the outbreaks was the atypical nature of many of the cases. Many had only a few loose fæculent motions without vomiting, cramp, suppression of urine, or any of the typical symptoms of Cholera. One case complained of Diarrhœa on the previous day. On isolation he passed a formed and apparently healthy stool, from which a pure culture of the Cholera Vibrio was obtained.

16. *Medico-Legal*.—Fifty-one dead bodies were sent by the Coroner for post-mortem examination. Four hundred and twelve cases were sent by the Police for treatment.

17. *European Ward*.—The number treated in the European ward was 273.

Cases treated in the European Ward:—

			<i>Europeans.</i>	<i>Eurasians.</i>	<i>Others.</i>
			—	—	—
1911	...	...	105	87	56
1912	...	...	119	90	78
1913	...	...	132	90	53
1914	...	...	118	83	72

18. *Japanese*.—Four hundred and sixty-five Japanese patients were admitted during the year. This is a substantial decrease compared with last year. One hundred and fifty-six stated that they came from Johore. There were 15 deaths among them giving a mortality of 3·22 per cent. They are ideal patients. Unlike

other Asiatics, they present themselves for treatment in the early stage of their disease. They take the diet and the medicine prescribed and follow implicitly instructions given them.

19. *Operations*.—One thousand eight hundred and fifty-three operations were performed during the year as compared with 1,443 in 1913, and 941 in 1912.

It was found necessary to make use of the Waiting Room as a Theatre for minor operations. The New Theatre which is now near completion will obviate this and allow all operations to be carried out in suitable surroundings.

20. During the year quarters for married and unmarried coolies and gardeners were opened. This freed Ward V which they had previously occupied and enabled us to relieve some of the more congested wards. A wardlet for isolation purposes and accommodation for the Lunatic Attendants were also finished. When not in use for isolation purposes the wardlet is used for the treatment of scabetic like skin conditions. We find that cases in the wardlet are cured in half the time that was taken formerly. Away from the general wards they submit more readily to treatment.

21. The new Dressers' scheme came into operation on 1st January, 1914, on which date we received authority to employ 25 apprentice dressers at \$15 a month and an Assistant Surgeon, Mr. MEHTA, was appointed dressers' tutor. At the beginning of the year the staff of dressers was increased to twenty, *i.e.*, 4 Senior Dressers, 4 Hospital Assistants and 12 Junior Government Dressers. Resignations among dressers have been much less than in recent years. Whatever the reason of this, it has been of great advantage to the hospital. With a more permanent and experienced dressing staff there has been a distinct improvement in the work. Naturally it will be several years before the full benefit of the new dressing scheme is experienced, but already we are over the worst of our difficulties. No cast iron scheme of training has been set up as we are of opinion that the methods of training should develop naturally.

22. His Excellency the Governor visited the hospital on Christmas Day.

The Principal Civil Medical Officer visited and inspected the hospital, Male and Female Leper Camps, etc., on 31 occasions.

The Committee of the Tan Tock Seng's Hospital paid 12 visits of inspection.

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## Tan Tock Seng's Hospital, Singapore.

## LIST OF OPERATIONS PERFORMED DURING THE YEAR 1914.

Class of Operation.	Nature of Operation.	Total.	Cured.	Re- lieved.	Not improved.	Died.
Operations on Tumours.	Removal of Tumour :— (a) By excision ... .. (b) By aspiration ... ..	8 1	8 ...	... 1	... ...	... ...
Operations on Cysts.	Removal of Cyst :— (a) By incision and plugging ... .. (b) By excision ... ..	1 2	... 2	1 ...	... ...	... ...
Operations on Bursæ.	Removal of Bursæ :— (a) By incision and partial excision of sac, etc. ... .. (b) By complete excision of sac ... ..	1 1	1 1	... ...	... ...	... ...
Operations for Abscess.	Acute Abscess :— (a) By incision, curetting, drainage and subsequent treatment ... .. (b) Aspiration and injection of Tr. Iodine ... ..  Chronic Abscess :— (a) By aspiration and injection of Tr. Iodine or Iodoform Emulsion, etc. ... .. (b) By incision, curetting, etc. ... ..	191 1  5 2	191 ...  3 ...	... ...  2 ...	... 1  ... 1	... ...  ... 1
Removal of Foreign Bodies.	Removal of foreign bodies, e.g., needles, etc. ... ..	4	4	...	...	...
Operations on Arteries.	Ligature for Aneurisms :— (a) Common Carotid ... .. (b) Femoral ... .. (c) External iliac ... ..	1 1 1	1 1 1	... ... ...	... ... ...	... ... ...
Operations for Aneurysms.	(a) By incision and plugging ... .. (b) By incision and turning out of clot and partial excision of sac ... .. (c) By complete extirpation of sac ... ..	1 2 1	1 2 ...	... ... ...	... ... ...	... ... 1
Operations on Veins.	(a) Infusion of saline ... .. (b) Injection of Quinine Bihydroch. gr. xv to H <sub>2</sub> O Oi. ... .. (c) Injection of Neo Salvarsan ... .. (d) Removal of varicose veins ... ..	6 31 122 1	... ... ... 1	... ... ... ...	... ... ... ...	... ... ... ...
Operations on Lymphatic Glands.	Removal of glands :— (a) By excision ... .. (b) By partial excision and curetting ... .. (c) Curetting (bubo) ... .. (d) Incision and curetting (bubo) ... ..	14 2 1 146	6 2 1 146	2 ... ... ...	4 ... ... ...	2 ... ... ...
Operations on Skin and Subcutaneous Tissues.	(a) Skin grafting ... .. (b) Curetting ulcers ... .. (c) Cauterisation of ulcers, etc. ... .. (d) Carbuncle incised and curetted ... .. (e) For sinus (superficial and deep) ... .. (f) For Cellulitis ... .. (g) Injection of Phylacogen ... .. (h) „ of Antitetanic Serum ... .. (i) Suturing wounds ... .. (j) „ of wounds and tendons ... .. (k) Evulsion of toe nail ... ..	9 27 7 2 37 31 30 24 349 3 1	5 27 7 2 37 31 ... ... 349 3 1	... ... ... ... ... ... ... ... ... ... ...	4 ... ... ... ... ... ... ... ... ... ... ...	... ... ... ... ... ... ... ... ... ... ...
Operations on Bones.	(a) Plating of recent fracture ... .. (b) Removal of sequestra ... .. (c) Excision of bone, end of stump ... .. (d) Setting of fracture (under an anæsthetic) ... ..	1 12 1 2	... 12 1 2	1 ... ... ...	... ... ... ...	... ... ... ...
Operations on Joints.	I. Reduction of dislocation of :— (a) Shoulder joint ... .. (b) Thumb ... ..	1 1	1 1	... ...	... ...	... ...
	Carried forward ... ..	1,085	851	7	10	4



LIST OF OPERATIONS—*continued.*

Class of Operation.	Nature of Operation.	Total.	Cured.	Relieved.	Not improved.	Died.
	<i>Brought forward</i> ...	1,085	851	7	10	4
Operations on Joints.— <i>Continued.</i>	II. Multiple incision :— (a) For purulent synovitis...	3	3	...	...	...
	III. Excision complete :— (a) Finger joint ...	1	...	...	1	...
	(b) Elbow joint ...	1	...	1	...	...
	(c) Astragalus ...	1	...	1	...	...
	IV. Aspiration of knee joint ...	1	...	1	...	...
Operations on Muscles.	(a) Tenotomy ...	1	...	...	1	...
	(b) Suture of divided muscles ...	1	1	...	...	...
	(c) Suture of cardiac muscle (Stab wound) ...	1	...	...	...	1
Amputations.	Amputation for disease or injury :— (a) Finger joints ...	6	6	...	...	...
	(b) Foot-symes ...	5	5	...	...	...
	(c) Leg, upper third ...	1	1	...	...	...
	Do. middle third ...	1	1	...	...	...
	(d) Tarso-metatarsal joints ...	1	1	...	...	...
	(e) First metacarpal bone ...	1	1	...	...	...
	(f) Metatarsal Phalangeal joints ...	18	18	...	...	...
	(g) Thigh, lower third ...	2	2	...	...	...
Operations on Skull.	Trephining for fracture c intracranial tension ...	4	...	1	...	3
Operations on Spine.	Lumbar puncture for examination of cerebro-spinal fluid ...	9	...	...	...	...
	Lamenectomy ...	2	...	...	...	2
	Intra spinal stovaine injections for Anæsthesia ...	35	{ 31 4	Successful had to use chloroform.		
Operations on Face.	For salivary fistula incision ...	1	...	...	1	...
Operations on the Eye.	(a) For corneæ ulcer cauterisation c carbolic acid ...	1	...	1	...	...
	(b) For extraction of lens ...	4	2	...	2	...
	(c) Excision eyeballs ...	10	10	...	...	...
	(d) Paracentesis Ant. chamber for Hypopyon ...	2	2	...	...	...
	(e) Iridectomy ...	15	...	8	7	...
Operations on the Mouth.	(a) For calculus and abscess of sub-lingual gland ...	1	1	...	...	...
	(b) For perforated palate plastic closure of palate ...	2	2	...	...	...
	(c) For cut throat sutured ...	1	...	...	...	1
	(d) Excision tonsils ...	1	1	...	...	...
	(e) Extraction teeth ...	33	33	...	...	...
Operations on the Chest.	(a) Paracentesis of pleura ...	15	...	15	...	...
	(b) Exploration of pleura and lung ...	10	...	...	...	...
	(c) Incision and drainage of pleura for Empyema ...	1	1	...	...	...
	(d) For empyema resection of a portion of rib and drainage ...	8	2	...	...	6
Operations on Abdomen.	(1) Paracentesis—tapping ...	182	...	182	...	...
	(2) For Ascitis Omentopexy ...	6	...	3	2	1
	(3) Operations on stomach :— (a) Washing out ...	3	...	...	...	...
	(b) Exploration and incision of stomach ...	1	...	...	...	1
	(c) Suture of stomach for stab wounds. ...	1	1	...	...	...
	(d) For gall stones Colecyst—Gastro-tomy ...	1	1	...	...	...
	(e) For ulcer, cancer or pyloric obstruction gastro-jejunostomy ...	8	5	...	...	3
	<i>Carried forward</i> ...	1,487	986	220	24	22

LIST OF OPERATIONS—*continued.*

Class of Operation.	Nature of Operation.	Total.	Cured.	Re-lieved.	Not improved.	Died.
	<i>Brought forward</i> ...	1,487	986	220	24	22
Operations on Abdomen. — <i>Continued.</i>	(4) Operations on Intestine Suture of Intestine Enterorrhaphy ...	...	...	...	...	...
	(a) Duodenum ...	1	...	...	...	1
	(b) Small intestine ...	2	...	...	...	2
	(c) Large intestine ...	1	1	...	...	...
	(d) Sigmoid flexure c mesentery and meso-colon ...	1	...	...	...	1
	(5) Suture of Omentum Stab wound ...	1	1	...	...	...
	(6) Exploratory Laparotomy ...	24	10	...	1	13
	(7) Exploratory laparotomy c drainage :—					
	(a) General Peritonitis due to multiple typhoid perforation ...	1	...	...	...	1
	(b) General Peritonitis due to pelvic abscess (typhoid) ...	1	...	...	...	1
	(c) General peritonitis due to gall stones ...	1	...	...	...	1
	(8) Colostomy ...	1	...	1	...	...
	(9) Cæcostomy ...	1	...	...	...	1
	(10) Colopexy ...	1	...	1	...	...
	(11) For intussusception :—					
	(a) Reduction ...	1	1	...	...	...
	(b) Excision of intersusseptum c lateral—Anastomosis ...	1	1	...	...	...
	(12) For obstruction :—					
	(a) Separation of adhesions and excision of band causing acute obstruction ...	1	1	...	...	...
	(b) Separation of adhesions between stomach and gall bladder ...	1	...	...	...	1
	(13) Operations on liver :—					
	(a) Exploration ...	1	...	...	...	...
	(b) Abscess incised and drained ...	3	1	...	...	2
	(c) Exploration and evacuation of gall bladder ...	1	1	...	...	...
	(d) Cholecystostomy ...	2	1	...	...	1
	(14) Operations on spleen for rupture—					
	Splenectomy ...	5	3	...	...	2
	Operations on appendix—Appendicostomy ...	2	...	...	...	2
	Abscess incised and drained ...	6	3	...	...	3
Operations on Rectum and Anus.	Operations on Rectum :—					
	(a) Sigmoidoscopy ...	15	...	...	...	...
	(b) Dilatation for stricture ...	1	...	1	...	...
	(c) Fistulæ incision, etc. ...	9	9	...	...	...
	(d) Piles ...	...	...	...	...	...
	(i) Ligaturing and excision ...	13	13	...	...	...
	(ii) Whitehead's operation ...	1	...	...	1	...
	(e) Prolapse reduction ...	1	...	1	...	...
	(f) Combined abdomino-perineal resection of rectum for cancer of rectum ...	1	...	...	...	1
	(g) Imperforate anus recto-vaginal fistula ...	1	...	...	1	...
Operations on Bladder and Urethra.	(a) Cystoscopy ...	22	...	...	...	...
	(b) Catheterisation ...	73	...	73	...	...
	(c) Removal of urethral calculi ...	2	2	...	...	...
	(d) Supra pubic Lithotomy ...	2	2	...	...	...
	(e) Supra pubic cystotomy ...	1	...	...	...	1
	(f) " " puncture of bladder ...	3	...	2	...	1
	(g) External urethrotomy ...	4	2	...	1	1
	<i>Carried forward</i> ...	1,696	1,038	299	28	58

## LIST OF OPERATIONS—concluded.

Class of Operation.	Nature of Operation.	Total.	Cured.	Re-lieved.	Not improved.	Died.
Operations on external Organs of Generation.	<i>Brought forward</i> ...	1,696	1,038	299	28	58
	(a) Circumcision ...	97	97	...	...	...
	(b) Amputation of penis ...	3	3	...	...	...
	(c) Amputation penis & adominal re-position of testicle, etc. (Smith's operation) ...	1	1	...	...	...
	(d) Excision of testicles ...	5	5	...	...	...
	(e) „ of scrotum ...	2	2	...	...	...
	(f) Hernia radical cure ...	17	17	...	...	...
	(g) Umbilical Hernia radical cure with insertion of filigree ...	1	1	...	...	...
	(h) Inguinal Hernia recurring after operation radical cure and filigree ...	1	1	...	...	...
	(i) Hydrocele radical cure ...	17	17	...	...	...
	Hydrocele tapping ...	2	...	2	...	...
	(j) Multiple incision for extravasation of Urine ...	3	2	...	...	1
	Examination under Chloroform ...	8	...	...	...	...
	Total ...	1,853	1,184	301	28	59

## LEPER ASYLUM, SINGAPORE.

1. *Male Camp*:—

Remained on 31st December, 1913 ...	...	...	5
Admitted 1914 ...	...	...	70
		Total ...	75
Transferred to Pulau Jerajak ...	...	...	44
Absconded ...	...	...	4
Died ...	...	...	10
Remaining on 31st December, 1914 ...	...	...	17
		Total ...	75

2. *Female Camp*:—

Remained on 31st December, 1913 ...	...	...	33
Admitted 1914 ...	...	...	7
		Total ...	40
Absconded ...	...	...	...
Died ...	...	...	5
Remaining on 31st December, 1914 ...	...	...	35
		Total ...	40

Weekly injections of Chaulmoogra Oil made up according to the Formula of Dr. HEISER were given during most of the year and are being continued. A slight improvement has been noticed in a few cases.



## LUNATIC ASYLUM.

REPORT BY DR. K. SIMPSON, M.B., Ch. B., *Acting Medical Superintendent.*

There remained on December 31st, 1913, 387 males and 87 females; 199 males and 36 females were admitted during the year; a total of 709 males and females treated.

Of the above 19 males and 8 females had previous admissions.

Of the total treated:—Seventy-four males and 14 females were discharged recovered, 15 males and 3 females relieved, 30 males and 4 females not improved, 7 males absconded and 105 males and 15 females died.

There remained on December 31st, 1914, 355 males and 87 females.

The average daily number resident was 473: 385 males and 88 females.

The maximum and minimum daily numbers were 508 and 435 respectively.

Of 442 patients remaining on December 31st:—

*Males. Females.*

—	—				
208	49	...	...	came from	Singapore.
1	3	...	...	„	„ Johore.
23	6	...	...	„	„ Malacca.
2	—	...	...	„	„ Seremban.
101	25	...	...	„	„ Penang.
14	1	...	...	„	„ Province Wellesley.
2	1	...	...	„	„ Kuantan.
0	1	...	...	„	„ Kelantan.
1	—	...	...	„	„ Christmas Island.
3	1	...	...	„	„ Labuan.

The nationalities of the above were:—

				<i>Males.</i>	<i>Females.</i>
				—	—
British	...	...	...	6	1
American	...	...	...	0	1
Dutch	...	...	...	0	1
Austrian	...	...	...	1	0
Finn	...	...	...	1	0
Eurasian	...	...	...	6	2
Japanese	...	...	...	0	2
Tamil	...	...	...	16	4
Malay	...	...	...	22	7
Javanese	...	...	...	12	5
Bengali	...	...	...	2	0
Arab	...	...	...	1	0
Jew	...	...	...	1	0

*Males. Females.*

Chinese:—

				—	—
Hokkien	...	...	...	100	15
Teochew	...	...	...	49	6
Cantonese	...	...	...	48	38
Hakka	...	...	...	35	4
Hailam	...	...	...	33	0
Other Classes	...	...	...	22	1

The number of admissions has fallen 22 below that for the previous year.

The physical condition of the admissions on admission is shown as:—

				<i>Males.</i>	<i>Females.</i>
				—	—
Good	...	...	...	54	8
Fair	...	...	...	72	8
Impaired	...	...	...	51	11
Greatly impaired	...	...	...	22	9

As to the causes assigned for mental breakdown, alcohol and Venereal Disease alone accounted for 22·55 of admissions, probably on the whole an under estimate. Alcohol heads the list with 37 cases, as compared with 29 the previous year; previous attacks accounted for 27, Venereal Disease 16, Malaria 15, Senility 12, and other bodily disorders 4.

The incidence of alcoholic insanity is yearly on the increase.

The liquor ingested in acute cases was nearly invariably found to have been a local product “Peh Chue Tau” obtained from rice. As such spirit costs about 25 cents per pint it must, owing to the duty on unadulterated alcohol, consist to a great extent of spirit which has been “methyiated” by the addition of alkaloidal bases, besides containing various of the higher alcohols and aldehydes invariably present in cheaply produced spirit. These impurities must undoubtedly account for the acute, mental derangements met with so frequently in those of our admissions of alcoholic origin. Venereal Disease was assigned as the cause of insanity in 16 admissions—10 males and 6 females.

Of male admissions one European and two better class Chinese were cases of General Paralysis of the Insane. Proof of previous syphilis was obtained in a positive Wasserman reaction in each case. The occurrence of a positive Wasserman reaction in so many of our insane, not the subjects of syphilitic insanity, shows that syphilis must enact a not unimportant rôle in regard to the future incidence of mental disorders.

It is to be regretted that so many admissions brought in are wandering lunatics and that more cannot be known of their antecedents. In 52 admissions no cause of insanity could be assigned, while hereditary influences could be traced in 9 cases only. Of 41 cases of Melancholia admitted, 24 males and 2 females had actually attempted suicide previous to admission while 48 patients regarded as actively suicidal have been under special supervision during the year. The proneness of the Chinese melancholic to suicide is here again forcibly demonstrated. Ninety per cent of their number had attempted suicide by hanging.

*Criminal Population.*—There remained on December 31st, 1913, 10 lunatic, criminals and 24 criminal lunatics. During the year 1 lunatic criminal was admitted, 1 died, 2 were transferred to prison recovered, while the sentence of one expired. Three criminal lunatics were admitted, 4 were transferred to the Civil Prison and 2 died.

*Discharges.*—The recovery rate based on the admissions for the year was 37·44. Recoveries are retarded by the present all too limited space at the disposal of the Asylum, the general overcrowding which occurs, and by the fact that no additional outlet, such as the usual Asylum farm, is provided for our inmates who pass a large part of their time here in comparative idleness. Relief will be given with the opening of the new wards now building at Tanjong Rambutan.

*Deaths.*—The death-rate on the average daily number was 25·36, that among males being 27·53, the highest since 1910. As responsible causes Dysentery, principally amœbic, accounted for 32, Tuberculosis 30, while an outbreak of Cholera, which occurred during April and May, caused 23 deaths. The first patient who developed choleraic symptoms had been in the Asylum for over 2 years. Infection had doubtlessly been introduced, in spite of the segregation which obtains of all new cases on admission, through carriers, the disease being at the time prevalent in Singapore. None of the European or Eurasian population were affected, while the female asylum at Pasir Panjang escaped entirely.

Dysentery of a mixed type was most prevalent during the months of July and August. A number of Dysenteries which were recurrent proved to be of the amœbic variety.

The lack of space for the proper isolation of Dysentery and Tuberculosis predisposes to the large incidence of, and mortality from, these diseases amongst our insane.

*Casualties.*—The majority of these were of a trifling nature; one patient slipped, sustaining a fractured femur, another an epileptic fell, fracturing his clavicle during a fit.

*Industries.*—Six thousand and ninety-six yards of plain and check cloth were woven by the inmates from which 33 European jackets, 84 pairs of trousers, 1,003 native bajus, 1,410 native trousers, 195 female bajus, 302 sarongs, 18 mattress covers, and 10 pillow cases were made. In addition 10 canvas suits, 3 mattress covers, 20 pairs strong trousers and 55 rugs were sewn for the use of acute cases from 15 bolts of canvas purchased. Spinning and weaving find an occupation for only a limited number, 20 to 25 daily of convalescent and a few demented cases.

A revenue of \$7,404.33 was derived from paying patients during the year.

*General.*—My indebtedness is due to the Government Pathologist, Dr. R. D. KEITH, for his assistance in undertaking the Wasserman examination of the serum in a number of doubtful and other cases.

Appended are a number of statistical tables as recommended for reference by the Lunacy Commissioners in England.

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TABLE I.

## LUNATIC ASYLUM.

*Table showing the Admissions, Discharges and Deaths during the Year 1914.*

—	Male.	Female.	Total.	Male.	Female.	Total.
In the Asylum on 1st January, 1914	...	...	...	387	87	474
Cases admitted :—						
First Admissions	...	...	...	180	28	208
Not First Admissions	...	...	...	19	8	27
Total cases under care during the year	...	...	...	586	123	709
Cases Discharged :—						
Recovered	76	14	90	...	...	...
Relieved	13	3	16	...	...	...
Not Relieved	32	4	36	...	...	...
Absconded	5	...	5	...	...	...
Died	105	15	120	...	...	...
Total cases discharged and died during the year	...	...	...	231	36	267
Remaining in the Asylum on 31st December, 1914	...	...	...	355	87	442
Average number resident during the year	...	...	...	385	88	473

TABLE II.

## LUNATIC ASYLUM.

*Table showing the Admissions, Re-admissions, Discharges and Deaths from 31st December, 1888, to 31st December, 1914.*

—	Male.	Female.	Total.	Male.	Female.	Total.
Remaining on the 31st December, 1888	...	...	...	176	32	208
Persons admitted during the period	...	...	...	4,175	723	4,898
Re-admissions	...	...	...	436	94	530
Total cases treated	...	...	...	4,787	849	5,636
Discharged Cases:—						29
Recovered	1,907	275	2,182	...	...	...
Relieved	428	109	537	...	...	...
Not improved	158	56	214	...	...	...
Absconded	156	23	179	...	...	...
Died	1,783	299	2,082	...	...	...
Total cases discharged and died since 31st December, 1888	...	...	...	4,432	762	5,194
Remaining in the Asylum on 31st December, 1914	...	...	...	355	87	442

TABLE III.

## LUNATIC ASYLUM.

Table showing the Admissions, Discharges and Deaths, with the Mean Annual Mortality and Proportion of Recoveries per cent on the Admissions for the Years 1886 to 1914 inclusive.

YEAR.	Admitted.		Discharged.						Absconded.		Died.		Remaining on 31st December of each Year.			Average Number Resident.			Percentage of Recoveries on Admissions.			Percentage of Deaths on the Average Number Resident.		
	Male.	Female.	Recovered.		Relieved.		Not Improved.		Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	
			Male.	Female.	Male.	Female.	Male.	Female.																
1886	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1887	173	17	190	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1888	153	23	176	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1889	186	24	210	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1890	224	30	254	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1891	162	30	192	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1892	158	29	187	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1893	184	33	217	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1894	169	29	198	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1895	173	34	207	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1896	202	28	230	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1897	122	26	148	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1898	137	24	161	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1899	130	32	162	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1900	157	30	187	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1901	154	21	175	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1902	143	16	159	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1903	191	30	221	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1904	223	31	254	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1905	200	28	228	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1906	199	32	231	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1907	163	34	197	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1908	175	37	212	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1909	174	46	220	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1910	182	46	228	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1911	190	30	220	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1912	205	33	238	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1913	209	48	257	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1914	199	36	235	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	



TABLE IV.

## LUNATIC ASYLUM.

Table showing the History of the Annual Admissions since 1889, with the Discharges and Deaths, and the Numbers of each Year Remaining on 31st December of the Year reported on.

YEAR.	Admitted.				Of each Year's Admissions, Discharged and Died in 1914.										Total Discharged and Died of each Year's Admissions to 31st December, 1914.										Remaining of each Year's Admissions, 31st December, 1914.		
	New Cases.		Re-admissions.		Recovered.		Relieved.		Not Improved.		Absconded.		Died.		Recovered.		Relieved.		Not Improved.		Absconded.		Died.				
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.			
Prior to 1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
1889	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
1890	197	26	27	4	254	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1891	137	25	25	5	192	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1892	144	26	14	3	187	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1893	170	27	14	6	217	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1894	157	24	12	5	198	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1895	156	30	17	4	207	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1896	186	21	16	7	230	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1897	98	21	24	5	148	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1898	129	21	8	3	161	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1899	118	30	12	2	162	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1900	143	29	14	1	187	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1901	137	21	17	...	175	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1902	129	14	15	2	159	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1903	176	27	15	3	221	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1904	201	24	22	7	254	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1905	177	26	23	2	228	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1906	176	30	23	2	231	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1907	148	29	15	5	197	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1908	167	34	8	3	212	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1909	154	43	20	3	220	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1910	159	40	23	6	228	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1911	177	29	13	1	220	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1912	192	30	13	3	238	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1913	189	42	20	6	257	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1914	180	28	19	8	235	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

TABLE V.

## LUNATIC ASYLUM.

Showing the Causes of Deaths during the Year 1914, together with the Ages at Death.

CAUSES OF DEATH.	Under 15 years.			15 and under 20 years.			20 and under 25 years.			25 and under 30 years.			30 and under 35 years.			35 and under 40 years.			40 and under 45 years.			45 and under 50 years.			50 and under 55 years.			55 and under 60 years.			60 and under 65 years.			65 and under 70 years.			70 and under 75 years.			75 and under 80 years.			Total.																																																																																																																																																																																																																																																																																																																																																																																																														
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.																																																																																																																																																																																																																																																																																																																																																																																																																		
GENERAL DISEASES.—																																																																																																																																																																																																																																																																																																																																																																																																																																																									
Cholera	...	...	...	...	...	3	2	...	3	...	3	...	3	...	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...																																																																																																																																																																																																																																																																																																																																																																																																									
Dysentery	...	...	...	...	...	7	1	...	7	...	...	...	5	...	9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...																																																																																																																																																																																																																																																																																																																																																																																																								
Pneumonia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...																																																																																																																																																																																																																																																																																																																																																																																																							
Sapraemia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...																																																																																																																																																																																																																																																																																																																																																																																																							
Septicæmia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...																																																																																																																																																																																																																																																																																																																																																																																																							
Anæmia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...																																																																																																																																																																																																																																																																																																																																																																																																							
Tubercle	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...																																																																																																																																																																																																																																																																																																																																																																																																							
DISEASES OF BRAIN AND NERVOUS SYSTEM :—																																																																																																																																																																																																																																																																																																																																																																																																																																																									
Epilepsy	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...																																																																																																																																																																																																																																																																																																																																																																																																							
Gumma	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...																																																																																																																																																																																																																																																																																																																																																																																																						
Meningitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...																																																																																																																																																																																																																																																																																																																																																																																																					
Cerebral Endarteritis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...																																																																																																																																																																																																																																																																																																																																																																																																					
Cerebral Thrombosis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...																																																																																																																																																																																																																																																																																																																																																																																																					
General Paralysis of the Insane	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...																																																																																																																																																																																																																																																																																																																																																																																																				
DISEASES OF THE CIRCULATORY SYSTEM.—																																																																																																																																																																																																																																																																																																																																																																																																																																																									
Valvular Disease of Heart (Aorta)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...																																																																																																																																																																																																																																																																																																																																																																																																				
Do. (Mitral)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...																																																																																																																																																																																																																																																																																																																																																																																																			
Aneurism of Aorta	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...																																																																																																																																																																																																																																																																																																																																																																																																			
Myocarditis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...																																																																																																																																																																																																																																																																																																																																																																																																			
Fatty Degeneration of Heart	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...																																																																																																																																																																																																																																																																																																																																																																																																			
Carried forward	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	

TABLE V.—Continued.

## LUNATIC ASYLUM.

Showing the Causes of Deaths during the Year 1914, together with the Ages at Deaths.

CAUSES OF DEATH.	Under 15 years.			15 and under 20 years.			20 and under 25 years.			25 and under 30 years.			30 and under 35 years.			35 and under 40 years.			40 and under 45 years.			45 and under 50 years.			50 and under 55 years.			55 and under 60 years.			60 and under 65 years.			65 and under 70 years.			70 and under 75 years.			75 and under 80 years.			TOTAL.			
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.							
<i>Brought forward</i> ...	...	...	...	1	2	3	3	1	4	14	2	16	11	2	13	34	1	35	16	3	19	7	...	7	1	8	2	1	3	2	...	2	...	...	...	...	...	...	...	...	97	13	110			
DISEASES OF THE DIGESTIVE SYSTEM.—																																														
Chronic Enteritis ...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	2			
DISEASES OF THE URINARY SYSTEM.—																																														
Acute Nephritis ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	2		
Chronic Interstitial Nephritis ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1	3		
INJURIES.—																																														
Suicidal hanging ...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	
Asphyxia from accidental drowning ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1
POISON.—																																														
Respiratory failure during chloroform anæsthesia complicated by advanced Epithelioma of tongue ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1
TOTAL. ...	...	...	...	1	2	3	3	1	4	15	2	17	12	2	14	37	1	38	16	3	19	8	1	9	1	10	2	1	3	2	1	3	...	...	...	...	...	...	...	...	...	...	105	15	120	



TABLE VI.

## LUNATIC ASYLUM.

*Table showing the Length of Residence of those Discharged, Recovered and of those who Died, during the Year 1914.*

Length of Residence.				Recovered.			Died.		
				Male.	Female.	Total.	Male.	Female.	Total.
Under one month	...	...	...	7	1	8	12	...	12
From one to three months	...	...	...	22	1	23	13	2	15
„ three to six months	...	...	...	16	4	20	13	1	14
„ six to nine months	...	...	...	13	1	14	6	4	10
„ nine to twelve months	...	...	...	8	1	9	5	1	6
„ one to two years	...	...	...	9	5	14	16	2	18
„ two to three years	...	...	...	1	...	1	18	1	19
„ three to five years	...	...	...	...	1	1	7	2	9
„ five to seven years	...	...	...	...	...	...	5	1	6
„ seven to ten years	...	...	...	...	...	...	8	1	9
„ ten to fifteen years	...	...	...	...	...	...	...	...	...
„ twenty-five to thirty years	...	...	...	...	...	...	2	...	2
TOTAL				76	14	90	105	15	120

TABLE X-a.

## LUNATIC ASYLUM.

Table showing the Probable Causes, Apparent or Assigned, of the Disorders in the Admissions, Discharges and Deaths of the Year 1914.

CAUSES.	ADMISSIONS.											
	Number of Instances in which a Cause was Assigned.											
	Admissions :—Male 199. Female 36. Total 235.											
	As Predisposing Cause.			As Exciting Cause.			As Predisposing or Exciting Cause.*			Total. †		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
<i>Moral.</i>												
Domestic Troubles (including loss of relatives and friends) ... ..	...	...	...	4	1	5	...	...	...	4	1	5
Adverse Circumstances (including business anxieties and pecuniary difficulties) ...	...	...	...	8	..	8	...	...	...	8	...	8
Mental Anxiety and Worry and Overwork ...	...	...	...	10	2	12	...	...	...	10	2	12
Religious Excitement ... ..	...	...	...	...	...	...	...	...	..	...	...	...
Love Affairs (including seduction) ...	...	...	...	...	...	...	...	...	...	...	...	...
Fright and Nervous Shock ... ..	...	...	...	...	...	...	...	...	...	...	...	...
<i>Physical.</i>												
Intemperance in Drink ... ..	...	...	...	51	...	51	...	...	...	51	...	51
Venereal Disease ... ..	5	1	6	6	4	10	...	...	...	11	5	16
Self-abuse ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Sunstroke ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Accident or Injury ... ..	...	...	...	4	...	4	...	...	...	4	...	4
Pregnancy ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Parturition and the Puerperal State ...	...	...	...	...	1	1	...	...	...	...	1	1
Uterine and Ovarian Disorders ... ..	...	...	...	...	5	5	...	...	...	...	5	5
Lactation ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Puberty ... ..	3	...	3	...	...	...	...	...	...	3	...	3
Epilepsy ... ..	...	...	...	...	...	...	2	1	3	2	1	3
Privation and Starvation ... ..	...	...	...	5	...	5	...	...	...	5	...	5
Heart Disease and Cardio Vascular Changes ...	...	...	...	3	1	4	...	...	...	3	1	4
Phthisis ... ..	...	...	...	5	...	5	...	...	...	5	...	5
Malarial Fever ... ..	...	...	...	16	1	17	...	...	...	16	1	17
Typhoid Fever ... ..	...	...	...	5	1	6	...	...	...	5	1	6
Other Bodily Diseases or Disorders ...	...	...	...	...	...	...	...	...	...	...	...	...
Previous Attacks ... ..	20	9	29	...	...	...	...	...	...	20	9	29
Old Age ... ..	11	5	16	...	...	...	...	...	...	11	5	16
Morphia Habit (Opium) ... ..	...	...	...	7	...	7	...	...	...	7	...	7
Hereditary Influences ascertained ...	9	4	13	...	...	...	...	...	...	9	4	13
Congenital Defect ... ..	11	...	11	...	...	...	...	...	...	11	...	11
Indian Hemp Smoking ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Unknown ... ..	...	...	...	...	...	...	...	...	...	...	...	...

\* Where these could not be distinguished. † Some of the admissions are credited with more than one cause; therefore, the sum of the "known" and "unknown" exceeds that of the admissions.

TABLE X-b.

## LUNATIC ASYLUM.

Table showing the Probable Causes, Apparent or Assigned, of the Disorders in the Admissions, Discharges and Deaths of the Year 1914.—Continued.

CAUSES.	DISCHARGES.											
	Number of Instances in which a Cause was Assigned.											
	Discharges :—Male 126. Female 21. Total 147.											
	As Predisposing Cause.			As Exciting Cause.			As Predisposing or Exciting Cause.*			Total. †		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
<i>Moral.</i>												
Domestic Troubles (including loss of relatives and friends) ...	...	...	...	..	3	3	...	...	...	...	3	3
Adverse Circumstances (including business anxieties and pecuniary difficulties) ...	...	...	...	5	...	5	...	...	...	5	...	5
Mental Anxiety and Worry and Overwork ...	...	...	...	5	2	7	...	...	...	5	2	7
Religious Excitement ...	...	...	...	...	...	...	...	...	...	...	...	...
Love Affairs (including seduction) ...	...	...	...	...	...	...	...	...	...	...	...	...
Fright and Nervous Shock ...	...	...	...	...	...	...	...	...	...	...	...	...
<i>Physical.</i>												
Intemperance in Drink ...	...	...	...	32	...	32	...	...	...	32	...	32
Venereal Disease ...	...	1	1	...	1	1	2	...	2	2	2	4
Self-abuse ...	...	...	...	...	...	...	...	...	...	...	...	...
Sunstroke ...	...	...	...	...	...	...	...	...	...	...	...	...
Accident or Injury ...	...	...	...	4	...	4	...	...	...	4	...	4
Pregnancy ...	...	...	...	...	1	1	...	...	...	...	1	1
Parturition and the Puerperal State ...	...	...	...	...	...	...	...	...	...	...	...	...
Uterine and Ovarian Disorders ...	...	...	...	...	2	2	...	...	...	...	2	2
Lactation ...	...	...	...	...	...	...	...	...	...	...	...	...
Puberty ...	...	4	4	...	...	...	...	...	...	4	...	4
Epilepsy ...	...	...	...	...	...	...	2	...	2	2	...	2
Privation and Starvation ...	...	...	...	3	...	3	...	...	...	3	...	3
Heart Disease ...	...	...	...	1	...	1	9	2	11	10	2	12
Phthisis ...	...	...	...	4	2	6	...	...	...	4	2	6
Malarial Fever ...	...	...	...	23	...	23	...	...	...	23	...	23
Typhoid Fever ...	...	...	...	...	...	...	...	...	...	...	...	...
Other Bodily Diseases or Disorders ...	...	...	...	4	2	6	...	...	...	4	2	6
Previous Attacks ...	...	18	5	23	...	...	...	...	...	18	5	23
Old Age ...	...	5	2	7	...	...	...	...	...	5	2	7
Opium ...	...	...	...	...	...	...	3	...	3	3	...	3
Hereditary Influences ascertained ...	...	4	2	6	...	...	...	...	...	4	2	6
Congenital Defect ...	...	2	1	3	...	...	...	...	...	2	1	3
Indian Hemp Smoking ...	...	...	...	...	...	...	...	...	...	...	...	...
Unknown ...	...	...	...	...	...	...	...	...	...	24	7	31

\* Where these could not be distinguished, † Some of the discharges are credited with more than one cause; therefore, the sum of the "known" and "unknown" causes exceeds that of the discharges.



TABLE X-c.

## LUNATIC ASYLUM.

Table showing the Probable Causes, Apparent or Assigned, of the Disorders in the Admissions, Discharges and Deaths of the Year 1914.—Continued.

CAUSES.	DEATHS.											
	Number of Instances in which a Cause was Assigned.											
	Deaths:—Male 105. Female 15. Total 120.											
	As Predisposing Cause.			As Exciting Cause.			As Predisposing or Exciting Cause.*			Total. †		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
<i>Moral.</i>												
Domestic Troubles (including loss of relatives and friends) ... ..	...	...	...	2	1	3	...	...	...	2	1	3
Adverse Circumstances (including business anxieties and pecuniary difficulties) ...	...	...	...	1	...	1	...	...	...	1	...	1
Mental Anxiety and Worry and Overwork ...	...	...	...	...	...	...	...	...	...	...	...	...
Religious Excitement ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Love Affairs (including seduction) ...	...	...	...	...	...	...	...	...	...	...	...	...
Fright and Nervous Shock ... ..	...	...	...	...	...	...	...	...	...	...	...	...
<i>Physical.</i>												
Intemperance in Drink ... ..	...	...	...	6	...	6	...	...	...	6	...	6
Venereal Disease ... ..	...	...	...	...	...	...	12	1	13	12	1	13
Self-abuse ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Sunstroke ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Accident or Injury ... ..	...	...	...	1	...	1	...	...	...	1	...	1
Pregnancy ... ..	...	...	...	...	1	1	...	...	...	...	1	1
Parturition and the Puerperal State ...	...	...	...	...	...	...	...	...	...	...	...	...
Uterine and Ovarian Disorders ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Lactation ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Puberty ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Epilepsy ... ..	...	...	...	...	...	...	3	...	3	3	...	3
Privation and Starvation ... ..	...	...	...	2	...	2	...	...	...	2	...	2
Heart Disease and Cardio Vascular Changes ...	...	...	...	...	...	...	17	4	21	17	4	21
Phthisis .. ..	...	...	...	24	6	30	...	...	...	24	6	30
Malarial Fever ... ..	...	...	...	7	...	7	...	...	...	7	...	7
Typhoid Fever ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Other Bodily Diseases or Disorders ... ..	...	...	...	...	...	...	12	2	14	12	2	14
Previous Attacks ... ..	...	3	3	...	...	...	...	...	...	3	...	3
Old Age ... ..	...	8	11	...	...	...	...	...	...	8	3	11
Opium .. ..	...	...	...	4	...	4	...	...	...	4	...	4
Hereditary Influences ascertained ...	...	1	1	...	...	...	...	...	...	1	...	1
Congenital Defect ... ..	...	3	3	...	...	...	...	...	...	3	...	3
Indian Hemp Smoking ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Unknown ... ..	...	...	...	...	...	...	...	...	...	27	1	28

\* Where these could not be distinguished. † Some of the deaths are credited with more than one cause; therefore, the sum of the "known" and "unknown" causes exceeds that of the deaths.

TABLE XI.

## LUNATIC ASYLUM.

*Showing the Form of Mental Disorder on Admissions and Deaths of the Year 1914, and the Form of Mental Disorder of the Inmates on 31st December, 1914.*

FORM OF MENTAL DISORDER.	Admissions.			Recoveries.			Deaths.			Remaining in Asylum.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Congenital or Infantile Deficiency with Epilepsy	...	...	...	...	...	...	...	...	...	1	1	2
Do. without Epilepsy	8	...	8	...	...	...	...	2	...	18	2	20
Epilepsy acquired	1	2	3	1	...	1	4	...	...	11	5	16
General Paralysis of Insane	5	2	7	...	...	...	3	1	...	5	2	7
Mania, Acute	63	17	80	37	9	46	22	3	25	41	10	51
Do. Acute, Delirious	...	...	...	...	...	...	...	...	...	...	...	...
Do. Chronic	...	...	...	...	2	2	1	...	1	14	5	19
Do. Recurrent	1	1	2	1	...	1	1	...	1	7	3	10
Do. A Potu	38	...	38	21	...	21	3	...	3	14	1	15
Do. Puerperal	...	...	...	...	...	...	...	...	...	...	1	1
Do. Senile	1	1	2	...	1	1	...	1	1	3	...	3
Melancholia, Acute	36	5	41	5	...	5	10	...	10	20	3	23
Do. Chronic	...	...	...	...	...	...	2	...	2	11	3	14
Do. Recurrent	...	1	1	...	1	1	...	...	...	...	...	...
Do. A Potu	2	...	2	1	...	1	...	...	...	1	...	1
Do. Puerperal	...	...	...	...	...	...	...	...	...	...	...	...
Do. Senile	...	...	...	1	...	1	1	...	1	...	...	...
Delusional Insanity	1	...	1	...	...	...	...	...	...	3	2	5
Dementia, Primary	16	1	17	2	...	2	2	...	2	22	2	24
Do. Secondary	3	1	4	3	1	4	39	6	45	160	21	181
Do. Senile	8	5	13	...	...	...	6	2	8	8	8	16
Do. A Potu	5	...	5	1	...	1	3	...	3	3	...	3
Do. Organic	7	...	7	...	...	...	4	...	4	16	14	30
Not Insane on admission	4	...	4	3	...	3	...	...	...	1	...	1
Delirium from fever	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL	199	36	235	76	14	90	105	15	120	359	83	442

TABLE XII.

## LUNATIC ASYLUM.

*Showing Occupation of Admissions.*

Occupation.	Male.	Female.	Total.	Occupation.	Male.	Female.	Total.
				<i>Brought forward ...</i>	102	18	120
Actor ...	2	...	2	Hawker ...	3	...	3
Ayah ...	...	2	2	Mat-maker ...	1	...	1
Architect ...	1	...	1	Mendicant ...	2	...	2
Asst. Surgeon ...	1	...	1	Mason ...	3	...	3
Attendant, Hospital ...	1	...	1	Motor car cleaner ...	1	...	1
Boiler cleaner ...	1	...	1	Nil ...	20	2	22
Brick-maker ...	2	...	2	Overseer ...	1	...	1
Clerk ...	5	...	5	Physician, Chinese ...	2	...	2
Carpenter ...	4	...	4	Pawnshop-keeper ...	2	...	2
Cake seller ...	2	...	2	Painter ...	2	...	2
Coffee seller ...	1	...	1	Plank carrier ...	2	...	2
Cart-driver ...	2	...	2	Planter ...	2	...	2
Cowherd ...	1	...	1	Pepper planter ...	1	...	1
Cook ...	3	...	3	Paddy planter ...	2	...	2
Coolie ...	23	...	23	Policeman ...	2	...	2
„ chandu ...	1	...	1	Peon ...	1	...	1
„ dock ...	2	...	2	Pig rearer ...	1	...	1
„ goods ...	1	...	1	Prostitute ...	...	6	6
„ immigrant ...	1	...	1	Rubber tapper ...	2	...	2
„ plantation ...	1	...	1	' Rikisha puller ...	10	...	10
„ rubber Estate ...	9	...	9	Sailor ...	7	...	7
„ railway ...	3	...	3	Salesman ...	1	...	1
„ road ...	3	...	3	Servant boy ...	3	...	3
„ saw-mill ...	1	...	1	Scholar ...	2	...	2
„ shop ...	6	...	6	Steward ...	1	...	1
„ tin mining ...	6	...	6	Shop-keeper ...	1	...	1
„ tongkang ...	3	...	3	Shoe-maker ...	1	...	1
Engineer ...	1	...	1	School teacher ...	1	1	2
Fireman ...	5	...	5	Trader ...	1	...	1
Firewood-seller ...	2	...	2	Timberman ...	1	...	1
Fisherman ...	3	...	3	Tinsmith ...	1	...	1
Fitter ...	1	...	1	Tailor ...	3	...	3
Gardener ...	3	...	3	Watchman ...	2	...	2
Goldsmith ...	1	...	1	Washerwoman ...	...	1	1
House wife ...	...	16	16	Unknown ...	12	8	20
<i>Carried forward ...</i>	102	18	120	<b>TOTAL ...</b>	199	36	235



# BERI-BERI HOSPITAL, PASIR PANJANG.

REPORT BY DR. K. SIMPSON, *Acting Medical Officer in charge.*

There remained on December 31st, 1913, 111 patients.

Two hundred and twelve patients were admitted during the year. Of admissions 16 were received from the General Hospital, 162 from the Tan Tock Seng's Hospital, while 34, as usual mostly relapsed cases, applied at the hospital for admission.

The nationalities of the admissions with their respective numbers were Chinese 180, Japanese 19, Malays 4, Tamils 3, Javanese 3, Arab 1, Bengali 1.

Of the total treated, 182 were discharged, 2 transferred, 40 absconded and 10 died.

Of discharges, 105 patients left freed from further symptoms, although in many absent or doubtful reflexes persisted.

Eighty-nine patients remained at the end of December, 1914.

The average daily number resident was 95.61 and the percentage of deaths to total treated 3.11.

*Admissions.*—Among previous occupations of admissions the largest number had been employed as rubber estate coolies in Johore. Saw-mill coolies come next, 75 per cent of whom were employed at a certain saw mill in Singapore. Among trades tailors numbered double any other.

On admission, 13 had suffered from previous Malaria to which their Neuritis was now partially or entirely due. Nine gave a history of recent Syphilis while 31 had suffered from two or more attacks of Dysentery.

In the present obscurity which surrounds the ætiology of Beri-beri it is noteworthy that syphilitic cases improved rapidly under anti-syphilitic treatment alone, while relapsing dysenteries showed little improvement throughout the year.

Six patients sought admission exhibiting œdema of the lower extremities, eight patients had ankle drop while three patients had wrist drop in addition.

Anæmia of the usual chlorotic type was invariably present on admission.

None admitted without œdema subsequently developed such during their stay in Hospital.

*Deaths.*—Ten deaths occurred from the following causes:—Beri-beri 1, Dysentery 1, Enteritis 1, Pneumonia 2, Tuberculosis 4, and 1 case of accidental drowning. Dysentery principally amœbic, prevailed to a considerable extent during the months of June and July. There were very few cases during the wet season.

Eight unrecovered Beri-beri cases remained from previous years in whom further implication of nervous tissue had appeared to extend to the tracts of the spinal cord, and in whom the clinical picture was now no longer that of the ordinary Beri-beri, but the Pseudo-tabetic, 3 of those so affected gave a definite history of syphilis. In none of the others could evidence of any luetic taint so far be determined.

## SINGAPORE.

### Kandang Kerbau Hospital.

REPORT BY MR. F. RODRIGUES, *Assistant Surgeon in charge.*

Work done:—

Remained on 31st December, 1913	...	...	63
Admitted 1914	...	...	441
		Total	504
Discharged	...	...	370
Died	...	...	71
Remaining on 31st December, 1914	...	...	63

The nationalities of those admitted were :—

Europeans and Eurasians	...	...	...	51
Japanese	...	...	...	46
Chinese	...	...	...	211
Malays	...	...	...	31
Indians	...	...	...	102

The average daily sick was 70·52 as compared with 73·35 for the previous year.

The percentage of deaths to total treated was 12·10. Of the 71 deaths, 3 died within 24 hours and 4 within 48 hours of admission.

There were two deaths under chloroform, one from shock during operation for removal of a large Malignant Ovarian Cyst, the other from Status Lymphaticus during operation for removal of extensive Tuberculous glands of the neck.

Since August the treatment of Syphilis by injections of Neosalvarsan was discontinued owing to shortage of supply of the drug.

The principal diseases treated were :—

Venereal	...	...	...	103
Malaria	...	...	...	73
Tubercle	...	...	...	23
Dysentery	...	...	...	18
New Growths	...	...	...	15
Injuries	...	...	...	15
Arthritis	...	...	...	15
Ankylostomiasis	...	...	...	12
Cirrhosis, Liver	...	...	...	11
Endometritis	...	...	...	9
Erosion Os	...	...	...	9
Bubo	...	...	...	9
Bronchitis and Asthma	...	...	...	9
Abscess	...	...	...	8
Ulcer	...	...	...	8
Disease of Heart	...	...	...	8

A list of operations is appended.

Two thousand four hundred and seventy-one cases attended as out-patients from among Government servants and their families.

#### Kandang Kerbau Hospital, Singapore.

##### RETURN OF OPERATIONS FOR THE YEAR 1914.

###### *Operations on Tumours and Cysts:—*

Removal by Excision	...	...	...	3
Incision and drainage	...	...	...	16

###### *Operation on Lymphatics:—*

Removal of lymph glands	...	...	...	6
-------------------------	-----	-----	-----	---

###### *Amputations:—*

Of thigh (1) and hip joint (1)	...	...	...	2
--------------------------------	-----	-----	-----	---

###### *Operations on Eye:—*

Extraction of lens (Cataract)	...	...	...	1
-------------------------------	-----	-----	-----	---

###### *Operations on mouth:—*

Removal of Tonsils	...	...	...	2
--------------------	-----	-----	-----	---

###### *Dental Operations:—*

Extraction	...	...	...	6
------------	-----	-----	-----	---

*Carried forward* ... 36

					<i>Brought forward</i> ...	36
<i>Operations on Naso-pharynx:—</i>						
Removal of adenoid growths	...	...	...	...	...	2
<i>Operations on Thyroid:—</i>						
Removal of Maligant growth	...	...	...	...	...	1
<i>Operations on Breast:—</i>						
Excision of breast with axillary glands			...	...	...	3
<i>Operations on Abdomen:—</i>						
Paracentesis	...	...	...	...	...	5
<i>Operations on Rectum and Anus:—</i>						
Ligature of piles	...	...	...	...	...	3
For anal fistula	...	...	...	...	...	3
<i>Operations, Bladder:—</i>						
Cystoscopy	...	...	...	...	...	2
<i>Operations, Female Generative Organs:—</i>						
Ovariectomy	...	...	...	...	...	1
Pan-hysterectomy	...	...	...	...	...	1
Curetting of uterus	...	...	...	...	...	9
Intravenous injections of Neosalvarsan			...	...	...	12
Total ...						78

#### HEALTH OF SINGAPORE POLICE FORCE 1914.

REPORT BY DR. FURNIVALL, *Police Surgeon*.

During the year under review 4,528 out-patients received treatment at the Central Police Station, Medical Office. This may be compared with numbers for previous years as follows:—

1908.	1909.	1910.	1911.	1912.	1913.
4,454	3,924	5,796	5,300	3,605	5,123

The 1914 list consisted of:—

Europeans 29; Eurasian 1; Sikhs 1,420; Other Indians 799; Malays 1,989; Chinese 290.

One case of infectious disease (Small-pox) occurred amongst the Police, the patient was removed to the Municipal Isolation Hospital and subsequently recovered.

Recruits admitted to the force are shown in following tables:—

Europeans.	Eurasians.	Sikhs.	Malays.	Javanese.	Other Indians.	Chinese.
16	2	22	74	15	17	24

Those rejected were as follows:—

Europeans.	Sikhs.	Malays.	Javanese.	Other Indians.	Chinese.
2	3	25	4	3	6



The following table shows the numbers of the Force admitted to the General Hospital during the year:—

Europeans and Eurasians.	Sikhs.	Malays and Arabs.	Tamils and Other Indians.	Chinese.
8	312	135	128	38

A total of 621. But one death (Malignant disease of the Liver) occurred.

## APPENDIX B.

### PENANG.

REPORT BY DR. R. DANE, *Chief Medical Officer.*

1. *Statistics*—Population:—Estimated mean annual 145,618.

Birth-rate:—For 1912: 26·29; for 1913, 26·22; for 1914, 25·62.

Death-rate:—For 1912: 34·59; for 1913, 35·14; for 1914, 36·01.

	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Infantile Mortality...	206	213	215	197	201	186	208	198

2. Table II shows for Penang Island Hospitals the figures for some important diseases:—

	1911.		1912.		1913.		1914.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Phthisis ...	189	119	262	149	210	120	303	154
Typhoid ...	6	2	7	...	13	1	13	6
Malaria ...	1,158	75	1,119	86	1,069	85	1,119	84
Diarrhœa ...	417	134	378	114	263	101	229	53
Dysentery ...	315	122	258	103	173	66	319	82
Ankylostomiasis ...	27	6	76	21	72	7	116	36
Syphilis ...	452	9	399	8	485	13	437	1
Gonorrhœa ...	130	...	153	...	247	...	118	...
Ulcers of Generative Organs ...	194	...	209	...	255	...	146	...
Tetanus ...	5	4	4	2	6	5	2	2
Small-pox ...	110	32	6	1	15	3	...	...
Cholera ...	76	67	...	..	2	2	6	5
Grand Total Admission for all Districts ...	6,616		6,824		7,336		7,550	

## QUARANTINE CAMP, JELUTONG.

REPORT BY DR. R. DANE, *Chief Medical Officer.*

*Admissions.*—Twenty-six cases of infectious disease were admitted during the year and with them came 18 contacts. Six persons were admitted for observations.

Table showing admissions classified by nationalities and diseases for the year 1914:—

Nationalities.	Small-pox.	Chicken-pox.	Measles.	Cholera.	Contacts.	Observation.
Europeans ... ..	1	...	...	...	...	2
Eurasian .. ..	...	...	1	...	...	...
Chinese ... ..	...	2	1	...	2	...
Malays ... ..	...	2	...	1	5	...
Tamils ... ..	2	14	...	2	11	...
Total ... ..	3	18	2	3	18	2

## GENERAL HOSPITAL, PENANG.

REPORT BY DR. R. DANE, *Chief Medical Officer.*

During 1914, 531 patients were treated in the European Wards and 1,727 in the Native Wards as compared with 298 and 1,660, respectively, in 1913.

The mortality, excluding all deaths within 48 hours of admission, was 3·06 per cent for the European Wards and 5·52 per cent for the Native Wards as compared with 3·02 per cent for the European and 5 per cent for the Native Wards during the previous year.

The principal diseases treated were:—

Malaria	...	...	...	386 cases with 23 deaths.
Venereal	...	...	...	94 „ no „
Dysentery	...	...	...	34 „ 4 „
Tuberculosis (including Phthisis)	...	...	...	42 „ 5 „
Beri-beri	...	...	...	8 „ 1 „

In addition to the above there were 193 admissions to the Venereal Ward for females during 1914 as compared with 180 in 1913. There remained in Hospital at the beginning of 1914, 30 patients making a total of 223 treated in all. The majority of patients were Chinese who formed 83 per cent of the total number of admissions. There were 9 deaths with a percentage of 4·03 to total treated. The chief cause of death was Phthisis.

Treatment with Neosalvarsan has been successful, cutaneous lesions clearing up rapidly.

I append a list of operations performed during the year.

## REPORT ON SURGERY AT GENERAL HOSPITAL, PENANG, DURING 1914.

BY DR. J. GRAY, B.A., M.B., B.Ch., *Surgeon in charge.*

During 1914 there has been a marked increase in the number of operations the total for the year being 570 which is more than double the number in 1913 even if those due to the *Emden's* visit to Penang which totalled 57 are excluded.

The following table shows the operations and results:—

MAJOR CASES.				Total.	Cured.	Relieved.	Not improved.	Died.	Remaining in Hospital.
Exploratory Laparotomy	...	...	...	9	2	4	...	3	...
Colostomy	...	...	...	1	...	...	...	1	...
Appendicectomy	...	...	...	2	2	...	...	...	...
Drainage of appendix abscess	...	...	...	2	1	...	...	1	...
„ Subphrenic abscess	...	...	...	1	...	...	...	...	1
„ Liver abscess	...	...	...	1	...	...	...	1	...
Splenectomy	...	...	...	2	1	...	...	1	...
Ovariectomy	...	...	...	3	2	...	...	...	1
Salpingectomy (ectopic gestation)	...	...	...	1	1	...	...	...	...
Alexander's operation	...	...	...	1	1	...	...	...	...
Nephrectomy	...	...	...	1	...	...	...	1	...
Removal of stone from ureter	...	...	...	1	1	...	...	...	...
Suprapubic cystotomy	...	...	...	3	3	...	...	...	...
Complete amputation of penis	...	...	...	2	2	...	...	...	...
External urethrotomy	...	...	...	1	1	...	...	...	...
Radical cure of Hydrocele	...	...	...	10	9	1	...	...	...
„ Varicocele	...	...	...	1	1	...	...	...	...
Herniotomy	...	...	...	13	12	...	...	1	...
Amputation of upper extremity	...	...	...	14	9	4	...	...	1
„ lower extremity	...	...	...	17	12	1	...	3	1
Trephine (intracranial abscess)	...	...	...	1	...	...	...	1	...
Plastic operation, for harelip	...	...	...	1	1	...	...	...	...
Excision of parotid tumour	...	...	...	3	1	2	...	...	...
Whitehead's operation	...	...	...	1	1	...	...	...	...
Excision of elephantiasis vulvæ	...	...	...	1	...	...	...	...	1
				93	63	12	...	13	5
Minor Cases				477	278	166	3	20	10
Total for year 1914				570	341	178	3	33	15



The case of ectopic gestation was of considerable interest, the patient coming to hospital 8 days after rupture of the tube. The patient, a Tamil woman, was admitted 25th April, 1914, in a collapsed condition complaining of hæmorrhage per vaginam for 8 days with pain over the lower abdomen. She had missed one period. Immediate laparotomy was performed, a Saline infusion rallying the patient sufficiently to enable an anæsthetic to be given and ruptured tube-uterine pregnancy was found, a large amount of blood being free in the abdominal cavity. The tube was removed and the patient did exceedingly well, the sutures being removed on the 9th day. The patient was discharged cured 10th June, 1914.

There were 3 ovariectomies performed during the year, one of them for a large dermoid cyst and the other two for cystic adenomata, the case which remains in hospital at the end of the year had both ovaries removed.

The successful splenectomy was performed in a case of chronically enlarged malarial spleen on the 21st of May and was discharged cured on the 6th of June; unfortunately one is unable to follow up these cases and this man never reported himself again although asked to do so.

Analysing the causes of death in the major cases, three occurred in Russian sailors who were in extremis on admission, the case of splenectomy which died had ruptured his spleen 24 hours before admission and was very collapsed, he gradually sank and died on the fifth day after operation. Nephrectomy was performed in a young Chinese boy who had been stabbed over the kidney by a knife which transfixed that organ; another stab wound through the anterior abdominal wall necessitated laparotomy and suture of the stomach wall which had been pierced; this patient succumbed two hours after operation. In the cases of appendix and liver abscess both had a history proving the presence of the abscess for at least three weeks before admission so that these cases were practically hopeless from the time of admission. The colostomy was performed on a baby 25 hours old for imperforate anus: death was due to shock.

Three exploratory laparotomy cases succumbed, one from tubercular disease, one from shock and the other (a case of stab wounds) from hæmorrhage and shock. The trephining case died from meningitis which developed although an intracranial abscess was opened and drained. The remaining case of herniotomy died from shock.

In the minor cases thirteen were most seriously ill on admission, the operation being performed as the only hope of recovery, two succumbed to Ankylostomiasis, one to general tuberculosis, one to exhaustion and one to Septicæmia, the last being a patient 85 years of age with little recuperative power.

On October 28th the Russian cruiser *Zhemchug* was sunk in Penang Harbour and 131 cases were brought to hospital, of these 35 were suffering from shock only. The wounds received were mostly due to shell which caused great laceration of the tissues and marked splintering of bone. In a few cases after careful cleaning with antiseptics the wounds were stitched but in all of these a gas forming bacillus developed, the gas being present in the wound 24 hours after the injury was received, all such had of necessity to be opened up and the wounds allowed to granulate. Another point of interest was the rapidity with which sepsis developed, pus appearing in the wounds in less than 24 hours, the sepsis rapidly cleared up with hydrogen peroxide and antiseptic dressing.

Five cases died. Three of these were suffering from a badly shattered thigh and were in a most serious condition when admitted, amputation was performed as the only hope of saving their lives, two died on the day of admission and one on the day following. Another was admitted with a fractured pelvis and internal hæmorrhage, this case was inoperable and died on the day of admission. The fifth case which succumbed had severe gluteal wounds which became gangrenous and pulmonary thrombosis caused his death on the third day.

In addition to the amputations mentioned above one case with severe injuries to the knee had amputation performed through the thigh, another with a shattered elbow through the arm, and a finger was amputated in two other cases. All the remaining operations were for the removal of pieces of shell or other foreign bodies such as glass which had been broken probably when the cruiser blew up, also in many cases pieces of bone had to be removed where splintered by shell.

At the end of the year but eleven of the 131 cases remained in hospital and of these only three were unfit to travel, the remaining cases were waiting for ship accommodation to take them home.

## PRISON HOSPITAL, PENANG.

REPORT BY DR. R. DANE, *Chief Medical Officer*.

1. The sanitary condition of the Prison was good, and the general health of the prisoners was satisfactory.
2. There remained 17 patients in hospital at the end of 1913.
3. Three hundred and forty patients were admitted during the year making a total of 357 treated in all.
4. The average daily sick for the year was 14·14.
5. Ninety-four vagrants were admitted to hospital, *i.e.*, 27 per cent of the total admissions.

## 6. The principal diseases treated were:—

Malarial Fever	...	...	...	...	23
Fevers (unclassified)	...	...	...	...	24
Dysentery	...	...	...	...	7
Diarrhœa	...	...	...	...	35
Ankylostomiasis	...	...	...	...	5
Phthisis	...	...	...	...	8
Bronchitis	...	...	...	...	12
Syphilis	...	...	...	...	10
Gonorrhœa and its complications	...	...	...	...	17
Ulcers	...	...	...	...	22
Injuries	...	...	...	...	21

7. *Mortality*.—There were 12 deaths in hospital during the year, giving a death-rate of 3·36 per cent to total treated.

Of the deaths all were amongst vagrants seriously ill on admission.

## DISTRICT HOSPITAL, PENANG.

REPORT BY DR. V. B. KYLE, *Medical Officer in charge*.

*Work done*.—There were 354 patients in hospital at the end of 31st December, 1913.

Four thousand three hundred and eighty-eight cases were admitted during the year including 18 Europeans making the total treated 4,742. The average daily number of sick during the year was 372·86, as compared with 393·28 in 1913. There were 464 deaths during the year as compared with 471 the previous year. The percentage of deaths to total treated was 9·78 as compared with 9·70 in the previous year.

Of the four hundred and sixty-four deaths 49 died within 48 hours, the percentage of deaths to total treated excluding these was 8·84.

*Beri-beri*.—Seventy-nine cases treated with 7 deaths.

*Dysentery*.—Two hundred and eighty-five cases treated with 69 deaths, the percentage is 24·21.

*Malarial Fever*.—Six hundred and seventy-four cases treated with 66 deaths, the percentage is 9·79.

*Phthisis*.—Two hundred and fifty-nine cases treated with 134 deaths, the percentage is 51·73.

*Diarrhœa*.—One hundred and eighty-eight cases treated with 47 deaths, the percentage is 25·00.

*Venereal Diseases*.—Nine hundred and ninety-nine cases treated with 1 death.

Table showing the Admissions and Deaths from the Principal Diseases in the District Hospital, Penang, for the past four Years.

DISEASES.	1911.			1912.			1913.			1914.		
	No. of Cases Treated.	Died.	Percentage.	No. of Cases Treated.	Died.	Percentage.	No. of Cases Treated.	Died.	Percentage.	No. of Cases Treated.	Died.	Percentage.
Beri-beri	127	25	19'68	94	17	18'08	102	9	8'82	79	7	8'86
Dysentery	179	77	43'02	153	65	42'48	138	47	34'06	285	69	24'21
Malarial Fever	647	58	8'96	742	57	7'68	636	63	9'90	674	66	9'79
Anæmia	179	57	31'84	131	45	34'35	36	3	8'33	27	...	...
Phthisis	151	92	60'92	202	122	60'39	165	95	57'57	259	134	51'73
Diarrhœa	232	91	39'22	183	84	45'90	209	84	40'19	188	47	25'00
Venereal Diseases	613	6	'97	688	4	'58	914	9	'98	995	1	'100



## District Hospital, Penang.

*Nationality Return for 1914.*

Nationality.			Remained.	Admitted.	Total.	Discharged.	Transferred.	Absconded.	Died.	Remaining.
Europeans	...	...	1	17	18	14	2	2	...	...
Russians	...	...	...	2	2	2	...	...	...	...
Eurasians	...	...	6	31	37	31	2	...	3	1
Japanese	...	...	1	7	8	7	...	...	1	...
Jews	...	...	...	2	2	2	...	...	...	...
Chinese	...	...	265	2,768	3,033	2,303	98	55	305	272
Tamils	...	...	42	1,343	1,385	1,122	51	16	130	66
Do. Islam	...	...	18	117	135	105	4	4	10	12
Bengalee	...	...	7	37	44	31	...	2	7	4
Singhalese	...	...	4	11	15	10	...	...	4	1
Burmese	...	...	...	1	1	1	...	...	...	...
Arabs	...	...	...	2	2	1	1	...	...	...
Malays	...	...	7	37	44	33	1	...	3	7
Siamese	...	...	2	1	3	2	...	...	...	1
Javanese	...	...	1	9	10	7	...	...	1	2
Boyanese	...	...	...	3	3	2	...	...	...	1
Total			354	4,388	4,742	3,673	159	79	464	367

*List of Minor Operations performed in the District Hospital, Penang, for the Year 1914.*

Operations.			Diseases.		Total.	Remarks.
Incision	...	...	Bubo	...	67	
Do.	...	...	Cellulitis	...	1	
Do.	...	...	Abscess	...	67	
Do.	...	...	Tumour	...	2	
Do.	...	...	Sinus	...	11	
Do.	...	...	Glands	...	3	
Counter Opening	...	...	Synovitis	...	1	
Exploration	...	...	Do.	...	1	
Extraction	...	...	Caries Tooth	...	8	
Curettage	...	...	Ulcer	...	33	
Do.	...	...	Chancre	...	3	
Do.	...	...	Ischio Rectal Fistula	...	1	
Do.	...	...	Ulcer Penis	...	1	
Do.	...	...	Necrosis Clavicle	...	1	
Injection Neosalvarsan	...	...	Secondary Syphilis	...	19	
Sequestrotomy	...	...	Caries Bone	...	1	
Do.	...	...	Necrosis Metatarsal	...	1	
Amputation	...	...	Gangrene Phalanx	...	1	
Total					222	

## EYE WARD, DISTRICT HOSPITAL, PENANG.

REPORT BY DR. J. KIRK, *Ophthalmic Surgeon.*

1. There were 278 patients treated during the year.
2. One hundred and seventy-eight of the patients were indoor cases, the remaining 100 being out-patients.
3. There were 48 operations, the results being on the whole satisfactory.

4. **Six Years' Record.***Cases Treated in the Ophthalmic Ward, District Hospital, Penang.*

Years.				In patients.	Out-door patients.	Surgical cases.	Remarks.
1909	...	...	...	120	18	28	
1910	...	...	...	136	41	46	
1911	...	...	...	140	52	49	
1912	...	...	...	211	22	46	
1913	...	...	...	218	70	58	
1914	...	...	...	178	100	48	

5. Operations performed in the Ophthalmic Ward during the year 1914.

	Cases.			
Sub-Conjunctival Injection	...	...	...	6
Pterygium	...	...	...	7
Iridectomy	...	...	...	6
Cataract	...	...	...	16
Lachrymal abscess	...	...	...	3
Removal Foreign body from Cornea	...	...	...	1
Hypopyon (removal of pus from anterior chamber)	...	...	...	5
Cauterizing Corneal Ulcer	...	...	...	2
Enucleation Eye-ball	...	...	...	2
Total	...	...	...	48

6. Annual Return of Sick of the Ophthalmic Ward, District Hospital, for 1914.

	Cases.			
Gonorrhœal Ophthalmia	...	...	...	23
Conjunctivitis	...	...	...	15
Trachoma	...	...	...	21
Pterygium	...	...	...	11
Keratitis	...	...	...	3
Pannus	...	...	...	1
Ulcer Cornea	...	...	...	17
Opacity Cornea	...	...	...	5
Carried forward	...	...	...	96

					<i>Cases.</i>
					<hr/>
			<i>Brought forward</i>	...	96
Staphyloma ...	...	...	...	...	3
Chronic Iritis	...	...	...	...	30
Hypopion ...	...	...	...	...	7
Optic Atrophy	...	...	...	...	5
Anæmia of Retina	...	...	...	...	1
Cataract ...	...	...	...	...	16
Panophthalmitis	...	...	...	...	3
Amaurosis ...	...	...	...	...	12
Lachrymal Abscess	...	...	...	...	1
Entropion ...	...	...	...	...	1
Wound Eyelid	...	...	...	...	1
Rupture of Cornea	...	...	...	...	2
					<hr/>
			Total	...	178
					<hr/>

Annual Return of Out-door Cases treated in the Ophthalmic Ward,  
District Hospital, during the year 1914.

					<i>Cases.</i>
					<hr/>
Gonorrhœal Ophthalmia ...	...	...	...	...	4
Malignant Growth Eyelid	...	...	...	...	1
Conjunctivitis	...	...	...	...	5
Trachoma ...	...	...	...	...	7
Pterygium ...	...	...	...	...	5
Keratitis ...	...	...	...	...	1
Opacity of Cornea	...	...	...	...	5
Ulcer Cornea	...	...	...	...	11
Staphyloma	...	...	...	...	3
Iritis ...	...	...	...	...	9
Glaucoma ...	...	...	...	...	2
Hypopyon ...	...	...	...	...	1
Optic Atrophy	...	...	...	...	2
Anæmia of Retina	...	...	...	...	2
Cataract ...	...	...	...	...	22
Amblyopia ...	...	...	...	...	2
Lachrymal Abscess	...	...	...	...	3
Wound of conjunctiva	...	...	...	...	10
Rupture of Cornea	...	...	...	...	1
Foreign body in Cornea ...	...	...	...	...	1
Perforation of Cornea	...	...	...	...	3
					<hr/>
			Total	...	100
					<hr/>



## BALIK PULAU HOSPITAL.

REPORT BY DR. R. DANE, *Chief Medical Officer.*

*Work done.*—The total treated was 358 with a daily average of 21·98 as compared with 352 and 18·12 of the preceding year.

Of the 358 patients treated 352 were males and 6 females.

Seventy-one were Tamils with 6 females.

Twenty-three Malays were admitted all males. Of these 17 were Police Constables.

The principal diseases treated were :—

Ulcers	...	...	...	...	109 with deaths Nil.
Phthisis	...	...	...	...	4 „ 4 deaths.
Malaria	...	...	...	...	53 „ 3 „
Dysentery	...	...	...	...	11 „ 6 „
Valvular Disease Heart			...	...	7 „ 4 „
Pneumonia	...	...	...	...	7 „ 1 „

Sixty-four minor operations were performed, viz. :—

Scraping of Ulcers and Sinuses	...	...	...	48
Incisions for Bubo	...	...	...	3
Incisions of Abscess	...	...	...	2
Stitching of muscles, etc., in wounds	...	...	...	10
Removal of foreign body from abdominal wall	...	...	...	1

*Mortality.*—The death-rate was 9·49 as compared with 8·53 of the preceding year. The percentage of deaths falls to 7·97 by deducting seven deaths which occurred within 48 hours of admission.

*General.*—Towards the end of May and beginning of June, 1914, there was an epidemic of Malaria and Dysentery in Kuala Jalan Bharu.

Anti-malarial work was promptly undertaken, quinine was distributed free, pools were oiled and puddles filled up. The Public Works Department assisted in clearing jungles and streams. The outbreak soon subsided. Some village drains at the back of the Clerk's quarters have been cemented.

A new Market has been erected replacing the old insanitary one.

## LUMUT HOSPITAL, DINDINGS.

REPORT BY DR. R. DANE, *Chief Medical Officer.*

*Work done.*—Four hundred and twenty-two cases were admitted, which, with 8 remaining of the previous year, make a total of 430 cases treated, as compared with 373 in the previous year. The principal disease treated was Malaria, there being 136 cases in all with 18 deaths, as compared with 154 cases with 9 deaths in 1913.

The daily average number of patients was 13·85.

*Mortality.*—There were 53 deaths during the year, of these 9 died within 48 hours of admission.

The principal causes of death were as follows :—

Dysentery	...	...	...	...	3
Diarrhœa	...	...	...	...	7
Malaria Fever	...	...	...	...	18
Ankylostomiasis	...	...	...	...	6
Phthisis	...	...	...	...	3

The percentage of deaths to total treated was 12·32 which falls to 10·45 when deaths within 48 hours of admission have been excluded.

The admission and deaths were made up as follows :—

				<i>Admissions.</i>	<i>Deaths.</i>
				—	—
Dindings ...	...	...	...	326	41
Sitiawan and Lower Perak	...	...	...	104	12
				—	—
		Total	...	430	53
				—	—

*Police.*—The health of the Malay Contingent was good.

*Coroner's Inquest.*—Fourteen bodies were brought to the hospital for examination.

#### LEPER ASYLUM, PULAU JEREJAK.

REPORT BY DR. F. R. SAYERS, *Medical Officer in charge.*

1. <i>Statistics.</i> —Remained on 31st Decem-ber, 1913	...	...	...	<div> <div>Colonial 188</div> <div>Perak 165</div> <div>Selangor 15</div> <div>Kedah 2</div> </div>	... 370
Admitted during 1914	...	...	...	<div> <div>Colonial 85</div> <div>Perak 104</div> <div>Selangor 20</div> <div>Kedah 2</div> </div>	... 211
Discharged during 1914	...	...	...	Nil.	
Transferred	...	...	...	Colonial 1	
Absconded	...	...	...	<div> <div>Colonial 9</div> <div>Perak 4</div> </div>	... 13
Died	...	...	...	<div> <div>Colonial 85</div> <div>Perak 67</div> <div>Selangor 11</div> <div>Kedah 1</div> </div>	... 164
Remaining on 31st December, 1914	...	...	...	<div> <div>Colonial 178</div> <div>Perak 198</div> <div>Selangor 24</div> <div>Kedah 3</div> </div>	... 403

The average daily number of inmates was 396·47. The percentage of deaths was 28·22.

2. *Treatment.*—Treatment of selected cases with Nastin and with a preparation of Chaulmoogra Oil was attempted throughout the year. Such treatment is hampered by the persistent objection of patients to submit to hypodermic injections at regular intervals.

3. The tables appended are :—

(a) Giving the number of admissions. Total number of inmates. The number of deaths and the daily average for the last 23 years.

(b) Giving the nationality of the inmates.

(c) Showing the occupation of inmates previous to admission.

TABLE A.

*Showing the Number of Admissions, Total Number of Inmates, the Number of Deaths and the Daily Average for the last 23 Years.*

Years.		Remained from previous years.	ADMISSIONS.				Total.	Deaths.	Percentage of deaths.	Daily Average.
			Colonial.	Perak.	Selangor.	Kedah.				
1892	...	137	178	110	...	...	425	122	28.70	282.96
1893	...	310	118	4	...	...	432	87	20.13	307.80
1894	...	321	111	60	...	...	492	129	26.21	311.18
1895	...	332	121	34	...	...	487	146	29.97	313.06
1896	...	301	145	24	...	...	470	136	28.93	303.37
1897	...	286	152	...	...	...	438	130	29.68	278.64
1898	...	253	152	16	...	...	421	123	29.21	262.10
1899	...	247	123	20	...	...	390	142	36.41	239.15
1900	...	214	97	59	...	...	370	115	31.08	214.15
1901	...	233	80	29	...	...	342	88	25.73	233.35
1902	...	235	84	33	...	...	352	73	20.73	243.27
1903	...	244	119	71	...	...	434	84	19.35	264.53
1904	...	334	92	42	...	...	468	140	29.91	311.02
1905	...	282	148	36	...	...	466	78	16.73	319.73
1906	...	357	107	32	...	...	496	138	27.82	344.30
1907	...	336	100	52	...	...	488	110	22.54	361.74
1908	...	356	98	52	...	...	506	107	21.15	383.73
1909	...	370	90	117	...	...	577	134	23.22	396.67
1910	...	420	97	94	...	...	611	186	30.44	413.83
1911	...	385	96	90	50	...	621	157	25.28	404.37
1912	...	421	90	79	1	6	597	138	23.11	417.78
1913	...	428	99	42	...	1	570	189	33.15	397.06
1914	...	370	85	104	20	2	581	164	28.22	396.47

TABLE B.

*Showing the Nationalities of Inmates.*

Nationalities.		Colonial.	Perak.	Selangor.	Kedah.	Total number.	
Chinese.	Hokkien	...	46	20	7	1	74
	Teochew	...	51	19	4	1	75
	Cantonese	...	77	106	8	...	191
	Kheh	...	46	97	13	2	158
	Hailam	...	23	5	...	...	28
	Kowchew	...	...	...	...	...	...
	Luichew	...	...	...	...	...	...
	Eurasian	...	1	...	...	...	1
	Malays	...	2	...	1	...	3
	Kling, Islam	...	3	1	...	...	4
	Tamils	...	24	21	2	..	47
	Javanese	...	...	...	...	...	...
Total		...	273	269	35	4	581



TABLE C.

*Showing the Occupation of Inmates for the Year 1914.*

Occupation.	Colonial.	Perak.	Selangor.	Kedah.	Total.
Actor ...	2	...	...	...	2
Barber ...	1	3	...	...	4
Basket-maker ...	...	1	...	...	1
Beggar ...	1	...	...	..	1
Boatman ...	3	...	1	...	4
Boy ...	1	...	...	...	1
Blacksmith ...	9	3	1	...	13
Butcher ...	...	...	1	...	1
Cart-driver ...	2	4	...	...	6
Cart-puller ...	2	...	...	...	2
Carpenter ...	15	6	2	...	23
Cook ...	6	...	...	...	6
Conductor ...	1	...	...	...	1
Cake-seller ...	2	...	...	...	2
Dhoby ...	3	...	...	...	3
Engine-driver ...	...	1	...	...	1
Fisherman ...	5	...	...	...	5
Fitter ...	2	...	...	...	2
Fireman ...	2	...	...	...	2
General coolie ...	140	59	4	1	204
Gardener (vegetable) ...	12	15	...	2	29
Goldsmith ...	2	...	...	...	2
Hawker ...	4	2	...	...	6
Mason ...	3	...	...	...	3
Mining coolie ...	6	152	22	1	181
Painter ...	4	...	...	...	4
Police Constable ...	1	...	...	...	1
Planter (vegetable) ...	1	1	...	...	2
Post-peon ...	1	...	...	...	1
'Rikisha puller ...	5	...	1	...	6
Sailor ...	5	...	...	...	5
Shoe-maker ...	1	...	...	...	1
Shop-keeper ...	1	1	1	...	3
Tailor ...	8	1	...	...	9
Trader ...	2	3	1	...	6
Tin maker ...	2	...	...	...	2
Watchman ...	...	1	...	...	1
Wood-cutter ...	7	7	1	...	15
Nil. ...	11	9	...	...	20
Total ...	273	269	35	4	581

## FEMALE LEPER WARD, JELUTONG.

REPORT BY DR. R. DANE, *Chief Medical Officer.*

1. Nineteen cases remained at end of 1913 and 5 cases were admitted during the year, making 24 cases treated in all. There were 3 deaths. The average stay of those who died was 7 years.

2. There remained 21 cases at the end of the year.

3. Nationalities of the Female Leper Asylum, Jelutong, for the years 1913 and 1914:—

Nationalities.		1913.				1914.				Remarks.
		Remained.	Admitted.	Died.	Remaining.	Remained.	Admitted.	Died.	Remaining.	
Chinese	...	14	3	...	17	17	4	3	18	
Tamils	...	1	2	1	2	2	1	...	3	
Total	...	15	5	1	19	19	5	3	21	

## APPENDIX C.

## PROVINCE WELLESLEY.

REPORT BY DR. J. S. WEBSTER, M.B., B.S., D.P.H., *Medical Officer in charge.*

1. The health of Province Wellesley has been uniformly good throughout the year and there has been an absence of infectious disease except for a small outbreak of Cholera in February.

2. The estimated mean annual population of the District for 1914 is 133,777, being an increase of 1,495 people on the previous year.

The death-rate has continued to decrease and it has been gradually falling since the year 1911. In that year the death-rate per mille of the population was 30·76; in 1913 it fell to 28·63 per mille and in 1914 it was only 28·03 per mille. This decrease is satisfactory although even now the death-rate is high as compared with European standards. When one considers how few infants are seen at a sufficiently early stage of any illness to be treated with hope of success it cannot be regarded as excessive.

The death-rate reached its maximum in the month of June and I find that in previous years it was usually about this month that the death-rate was highest.

The principal diseases causing death in this district are as follows (arranged in order of frequency):—

Fever (Malarial and unspecified).

Convulsions.

Phthisis.

Dysentery and Diarrhœa.

Dropsy (cause not specified but including Bright's disease).

The birth-rate shows a gratifying increase on the previous year. It has gradually increased from 29·28 per mille in 1911 to 29·76 in 1913, and is now, for the year 1914, 32·67 per mille. It will be seen that there is an excess in the birth-rate over the death-rate, a condition of affairs which has only existed since 1912.

3. *Infantile Mortality*.—This figure, which is always a good index of the sanitary condition of a district, is still high but is showing a marked decrease. In 1913 it was 179 per thousand births, whereas in 1914 it had fallen to 169. Of these deaths, (68.73 per cent) occurred during the first three months of life.

#### 4. *Epidemics*.—

(A) *Cholera*.—Throughout the year there was only one small epidemic of infectious disease in this district and that was of cholera. During the months of February and March an outbreak of cholera occurred in Kedah, and special precautions were taken to prevent its importation into Province Wellesley, an object rather difficult to attain as there are no natural barriers to its spread, except along the northern boundary where the Sungei Muda flows. Although not successful in keeping the disease out the number of cases occurring in the Province was limited to 14, all of which occurred in the villages along the course of that river. Of these 14 cases 8 were not reported until after death, whilst of the remaining 6 only three were seen during life, a fact which greatly increased the difficulty of localising the epidemic; despite this the measures instituted were successful in preventing any further spread of the disease. Of the three cases seen before death the treatment by means of Rogers' hypertonic solutions administered intravenously was adopted in two cases but both ended fatally. The treatment, however, did not get a fair trial as the cases were practically hopeless when first seen.

Total number of cases of Cholera	...	...	...	14
„ deaths	...	...	...	14

(B) *Small-pox*.—In June three cases of small-pox occurred in the village of Simpang Ampat but there was no extension of the disease. Only one case was of the confluent type which resulted in death.

In November one case of this disease occurred amongst the coolies working on the coal wharf at Prye. He was at once removed to the Quarantine Camp, Butterworth, and effective and successful measures adopted to prevent any extension of the disease. This case was one of modified small-pox occurring in an individual who had two good scars of a vaccination in infancy but who had not been revaccinated since.

Total number of cases of Small-pox	...	...	...	4
„ deaths	...	...	...	1

#### 5. *Water supply*.—This varies according to the district.

In the southern district the water is obtained from an impounding reservoir at Bukit Panchor and distributed by iron pipes to the various villages. This water is of good quality and the periodical analyses made throughout the year confirm this and show that the quality is constant. The quantity collected in the reservoir is more than sufficient for all requirements. The quality of the water at the inflow is better than that at the outlet, and this is due to the presence of much vegetable matter in the reservoir, the removal of which is a matter of great difficulty. The treatment of the water in the reservoir by means of copper sulphate in 1913 was successful in reducing the quantity of minute water plants in it.

The central district is supplied with water from a small reservoir at Bukit Seraya and the water is of good quality. A new pipe line is being laid to supply this water to Butterworth and has been completed as far as Prye. Such a pipe will ensure a very ample supply of good water all along the line at a much higher pressure than formerly.

The northern district is supplied with water from numerous wells; this water is on the whole of fair quality and considering the scattered nature of the population in this district, it is difficult to see how any other source of supply could be obtained at a reasonable cost.

6. *The Disposal of Excreta*.—From the villages the excreta is disposed of by the system of deep trenching and it works uniformly well.

7. *Drainage*.—In the chief villages concrete drains have been laid down to carry off the surface and storm water. Owing to the district lying adjacent to the coast line and at a low level it is a matter of difficulty to obtain a proper fall for these drains.



There are swamps about the mouths of the rivers in the district, but any attempt at either the drainage or the filling in of these swamps is almost impossible as the extensive scale on which it would have to be done renders the cost prohibitive.

8. *Improvements by the Rural Board:—*

- (a) The extension of the pipe line to carry the water from Bukit Seraya as far as Prye.
- (b) The laying down of various short lengths of concrete drain in certain villages.

9. *Entomology.*—In the wet season mosquitoes are very numerous in this district and are chiefly of the *Culex* group, being either *Culex Fatigans* or *Stegomyia fasciata*. The common *Musca domestica* is also ubiquitous. The presence of so many cases of disease associated with diarrhoea (forming 6 per cent of those treated in the hospitals) may be due to the spread of the organism by the agency of these insects, as is well known to be the case in Bacillary Dysentery.

The swamps around Bagan Tuan Kechil have been searched for mosquito larvæ. On breeding out these larvæ have usually shown mosquitoes of the *Culex* group; less than one per cent were anopheline and these were almost invariably of the subgenus *Myzomyia*, species *Rossi* or *Ludlowii*, the latter of which is said to be a Malaria carrier. Another possible malarial carrier which I found to be present in very small numbers is *Anopheles (Myzorhynchus) sinensis*.

10. *Vaccination.*—Until February this was carried out by the local School Masters but as the results were not satisfactory it was decided to stop them and allow one dresser from each of the three hospitals to vaccinate instead. This system has proved more satisfactory.

The following figures show the work done under this heading:—

No. of Cases Vaccinated.	Perfect.	Modified.	Not seen.	Failed.	Percentage of success.
4,059	2,880	289	78	812	78 per cent.

11. *Examination of the School Children.*—The usual inspection of the school children has revealed very few points not mentioned in previous reports but the following are of interest:—

(a) *Splenic enlargement.*—Some 7 per cent of the children had an enlarged spleen; as this may be looked upon as an index of the extent to which Malaria is endemic amongst the population it does not reveal a very extensive infection.

(b) *Anæmia.*—At one school I picked out 15 scholars with obvious anæmia and on examination of the fæces 10 of these were found to be infected with ankylostomiasis. The microscopical findings in the examination of the stools of the pupils of this school are instructive and is appended:—

Total number of pupils examined	...	...	60	
"    "    "    with Ova in their stools	...	24		<i>i.e.</i> (40 per cent)
"    "    "    "    Ankylostome Ova in fæces	15			(25 per cent)
Number of cases showing only the Ankylostome Ova	...	4		
"    "    "    "    Ascaris ova	...	2		
"    "    "    "    Trichocephalus dispar ova	...	6		
"    "    "    "    Ova of Trichoc dispar and Ascaris	1			
"    "    "    "    Ova of the Ankylostome and T. dispar	...	3		
Number of cases showing Ova of the Ankylostome and Ascaris	...	...	1	
"    "    "    Trichocephalus dispar	...	7		

(c) *Teeth*.—Those of the Malay children are usually good; those of the Tamil children less so and those of the Chinese children worst of all. The latter do not seem to take the same care of the teeth that the other nationalities do.

(d) *Vaccination*.—Practically all the children had been vaccinated, the majority successfully. Some 80 per cent showed evidence of a successful vaccination.

## 12. *Items of interest* :—

### 1. *The treatment of Yaws.*

It is well known that Salvarsan is a specific for this disease. I have endeavoured to ascertain the minimum dose of the drug necessary for a cure but my experience has been limited to two cases. The first was given a dose of 0·2 gm. and recovery ensued in the usual way without any delay being apparent. The second was given a dose of 0·12 gm. and the recovery was again rapid and uneventful. In both cases the lesions had entirely disappeared within 10 days.

### 2. *The type of Dysentery found here.*

Both bacillary and amœbic dysentery occur but clinically the amœbic variety appears to be the more common. Since September I have instituted an examination of the excreta of these cases for either the living or the encysted amœba. In 14 cases out of 19 with symptoms of dysentery I was able to demonstrate the presence of the amœba histolytica.

## BUTTERWORTH HOSPITAL.

*Buildings*.—One new ward was completed in May and will accommodate 16 patients. This affords a very welcome addition to the number of beds available for the treatment of general medical cases. On its completion work was commenced upon the pauper ward and a new tiled roof placed upon it.

*Work done*.—On January 1st, 1914, there were 45 cases under treatment. During the year 881 cases were admitted (816 males including 1 European and 65 females) making a total of 926.

The average daily sick was :—

Males	...	...	...	...	44·47
Females	...	...	...	...	7·74
Total deaths	...	...	...	...	84
The percentage of deaths to total treated excluding those dying within 48 hours of admission					7·55
Number of deaths within 48 hours					14

The principal diseases treated were :—

	<i>Number of cases. Deaths. Mortality%.</i>		
	—	—	—
Ankylostomiasis	...	...	55
Beri-beri	...	...	9
Chancroids	...	...	27
Diarrhœa	...	...	6
Dysentery	...	...	41
Gonorrhœa	...	...	39
Valvular Disease of Heart	...	...	9
Injuries	...	...	156
Malaria	...	...	135
Nephritis	...	...	6
Syphilis	...	...	60
Tuberculosis	...	...	30
Yaws	...	...	2

*Necropsies.*—Twenty-six post-mortems were performed during the year: the Coroner sent in 14 bodies for examinations.

*Surgical Operations.*—One hundred and sixteen operations were performed during the year.

*Laboratory Work.*—The microscopical examination of blood, stools, sputum, urine, etc., is now carried out in a regular and thorough routine manner for all in-patients, and as far as possible it is also applied to patients attending the out-door dispensary.

*Vaccination.*—The following is the record under this heading for the year's work:—

Total number vaccinated	...	...	...	1,719
Modified	...	...	...	122
Perfect	...	...	...	1,300 75.62%
Failed	...	...	...	243 14.13%
Not seen	...	...	...	54

#### BUKIT MERTAJAM HOSPITAL.

REPORT BY DR. J. S. WEBSTER, *Medical Officer in charge.*

1. A new store-room and an out-patients' dressing-room have been added to the office block, and the size of the dispensary nearly doubled. The old attap store-room was pulled down.

The Federated Malay States Railway Department removed their temporary ward in the beginning of July on completion of the work of construction in the district.

The attap ward for contagious diseases that was situated in the hospital compound has been removed to the site recently acquired for a Quarantine Camp which is well away from the hospital boundary.

2. The following figures briefly summarise some of the work done:—

Remaining from 1913	...	...	...	66
Admitted during the year	...	...	...	1,299
Total treated	...	...	...	1,365
Average daily number of sick	...	...	...	54.02
Discharged	...	...	...	1,212
Transferred	...	...	...	5
Died	...	...	...	104
Percentage of deaths to total treated	...	...	...	7.61
Percentage of deaths to total treated excluding those dying within 48 hours of admission	...	...	...	5.96

The number of paying patients was 97 as compared with 66 of previous year, and the number of estate coolies 172, against 196 of last year.

3. The principal diseases treated with deaths were:—

				Cases.	Deaths.
Ankylostomiasis	...	...	...	197	25
Diarrhœa	...	...	...	11	1
Dysentery	...	...	...	46	12
Enteric Fever	...	...	...	3	2
Gonorrhœa	...	...	...	31	0
Malaria	...	...	...	159	13
Nephritis	...	...	...	15	3
New Growth, Malignant	...	...	...	7	5
Pneumonia	...	...	...	15	4
Soft Chancres	...	...	...	49	0
Tuberculosis	...	...	...	30	12
Syphilis	...	...	...	105	2
Wounds	...	...	...	188	2
Yaws	...	...	...	2	0



A special research was made into the incidence, spread, pathology and treatment of ankylostomiasis in the last 4 months of the year the prevalence of which disease is well illustrated by the figures quoted above.

4. Thirty-six necropsies were performed during the year on patients dying in the hospital.

5. *Surgical Operations* :—Two hundred and fifty were performed.

6. *Medico-legal* :—

(a) The Coroner sent in 23 bodies for post-mortem examination.

(b) The Police sent up 107 cases for examination or treatment including 13 persons for observation on their mental condition.

#### SUNGAI BAKAP HOSPITAL.

1. *Buildings*.—The new operation theatre has been in use since the month of May.

2. *Work done*.—

Patients remained in the hospital at the beginning of the year 48

Admissions during the year ... 802

Total treated ... 850

The average daily number of sick ... 38·11

Number of deaths ... 84

The percentage of deaths to total treated ... 9·88

Number of deaths within 48 hours of admission ... 27

Percentage of deaths to total treated excluding those dying within 48 hours of admission ... 6·70

Patients remaining in hospital at the end of the year ... 29

3. The principal diseases treated with the mortality from each is as follows :—

<i>Diseases.</i>	<i>No. of cases.</i>	<i>No. of deaths.</i>	<i>Mortality %.</i>
Ankylostomiasis ...	114	16	14·03
Dysentery ...	41	14	34·14
Enteric fever ...	2	2	100
Gonorrhœa ...	19	...	...
Leprosy ...	10	1	10
Malaria ...	100	11	11
Pneumonia ...	10	5	50
Soft Chancre ...	35	...	...
Syphilis ...	89	3	3·37
Tuberculosis ...	22	15	68·18
Wounds ...	147	1	·67

4. Thirty-four necropsies on patients dying in the hospital were performed during the year.

5. One hundred and fourteen operations were performed of which 52 were under general anæsthesia, 36 under local and 26 without anæsthesia. There was only one death.

#### Surgical Operations.

*No. of cases. Cured. Relieved.*

*On Tumours* :—

Excision of non-malignant growth ... 3 3 ...

Excision of Cyst ... 3 3 ...

*Carried forward* ... 6 6 ...

			No. of cases.	Cured.	Relieved.
			—	—	—
	<i>Brought forward</i>	...	6	6	...
<i>For Abscess :—</i>					
	Incision and drainage for abscess	...	15	15	...
	Incision for Cellulitis	...	2	2	...
<i>On Veins :—</i>					
	Intravenous Salvarsan	...	5	5	...
<i>On Lymphatics :—</i>					
	Incision of glands	...	11	11	...
	Incision and drainage for buboes	...	9	8	1
<i>On Skin and subcut. tissue :—</i>					
	Excision of keloid	...	1	...	1
	Therschs' skin grafting	...	3	3	...
<i>On Bones :—</i>					
	Sequestrotomy	...	1	...	1
<i>On Joints :—</i>					
	Aspiration of joint	...	1	1	...
	Arthrectomy	...	1	1	...
<i>Amputation :—</i>					
	Fingers and toes	...	4	4	...
<i>Skull :—</i>					
	Elevation of depressed bone	...	1	1	...
<i>Spine :—</i>					
	Lumbar puncture	...	1	1	...
<i>Eye :—</i>					
	Incision of eyeball for injury	...	1	1	...
<i>Dental :—</i>					
	Extraction of teeth	...	6	6	...
<i>Thorax—</i>					
	Paracentesis	...	1	1	...
	Resection of rib and drainage for Empyema	...	1	...	1
<i>Abdomen—</i>					
	Paracentesis abdominis	...	4	4	...
	Radical cure of hernia (Ing.)	...	1	1	...
	Incision and drainage for hepatic abscess	...	2	1	1
<i>Anus—</i>					
	Incision and scraping for fistula	...	1	1	...
	Ligature for haemorrhoids	...	3	3	...
<i>On Bladder—</i>					
	Supra pubic cystomy for Calculus	...	1	1	...
<i>On Urethra—</i>					
	Rapid dilatation of stricture	...	2	1	1
<i>On Male generative organ—</i>					
	Circumcision	...	22	22	...
	Radical cure for Hydrocele	...	3	3	...
	Castration for Tub. disease	...	2	2	..
<i>On Female generative organ—</i>					
	Ovariectomy	...	1	...	*1
	Repair of vesico Vag. fistula	...	2	2	...
	Total	...	114	107	6

6. *Medico-legal*.—The Coroner sent in 37 dead bodies for post-mortem examination. Thirty-seven inquests were held, 15 verdicts were returned of deaths from natural causes, 4 of homicide, 7 of suicide, and 11 of accidental deaths.

The Police sent 177 cases for examination or for treatment including 15 for observation of insanity and 9 for leprosy.

7. *Vaccination*.—One thousand two hundred and nineteen children were vaccinated with 331 failures and 115 persons were vaccinated in connection with 3 cases of small-pox at Simpang Ampat.

The percentage of failure was 27·15.

8. *Public Health*.—The health of the district has been good throughout the year. No outbreak of any epidemic diseases was reported except three cases of small-pox at Simpang Ampat village. The first case was hidden in a house by the occupier and not discovered for a few days. One case was of confluent type and ended fatally. The occupier was prosecuted and fined.

9. *Rainfall*.—The total rainfall was 197·42 inches as compared with 110·83 the previous year.

#### ESTATES AND ESTATE HOSPITALS.

REPORT BY DR. W. S. SHEPPARD, B.A., M.B., B.Ch., (Cantab.), *Senior Health Officer*.

Throughout the year the Province Estates were visited from time to time and reports made to the Senior Medical Officer, Penang. A vast improvement has been made on the Estates in the housing of coolies, system of drainage, latrine accommodation and scavenging.

Appended is a short statement of the work done in Estate Hospitals.

##### Alma Estate.

Average number of coolies on estate in 1914:—Tamils 287, Javanese 34.

Number of admissions to hospital (Bukit Mertajam)	...	24
Number of deaths in hospital	...	Nil.

There were 7 cases of Ankylostomiasis.

„	4	„	Malarial Fever.
„	2	„	Bowel disorders.
„	2	„	Venereal disease.
„	9	„	Miscellaneous diseases.

##### Batu Kawan Estate.

The improvement noted in 1913 has been maintained in 1914.

Average number of coolies on estate in 1914:—Tamils 364, Javanese 220.

Number of admissions to hospital	...	161
Number of deaths in hospital	...	5
Percentage of deaths to total treated	...	·86%

The incidence and death-rates from the following diseases are shown below:—

				Cases.	Deaths.
				—	—
Bowel disorders	...	...	...	17	...
Malaria	...	...	...	2	...
Phthisis	...	...	...	1	1
Ulcers	...	...	...	76	...
Venereal disease	...	...	...	9	...



**Bertam Estate.**

The water supply installed in 1913 has proved satisfactory. Latrines of the trench-type were installed, but as the coolies could not be induced to use them, they have not been renewed. No nuisance has resulted. A single case of ankylostomiasis is recorded for the year.

The question of latrine accommodation is under consideration.

Average number of coolies on estate in 1914:—Tamils 1,434, Javanese 57, Malays 277.

Number of admissions to hospital	...	...	...	768
Number of deaths in hospital	...	...	...	27
Percentage of deaths to total treated	...	...	...	1.31%

The principal diseases treated were:—

				<i>Cases.</i>	<i>Deaths.</i>
				—	—
Anæmia	...	...	...	3	...
Ankylostomiasis	...	...	...	1	...
Bowel disorders	...	...	...	160	20
Malaria	...	...	...	51	...
Phthisis	...	...	...	1	1
Ulcers	...	...	...	205	...
Venereal disease	..	...	...	60	...

**Byram Estate.**

Average number of coolies on estate in 1914:—Tamils 364, Javanese 66, Chinese 20.

Number of admissions to hospital	...	...	...	309
Number of deaths in hospital	...	...	...	15
Percentage of deaths to total treated	...	...	...	1.43%

The principal diseases treated were:—

				<i>Cases.</i>	<i>Deaths.</i>
				—	—
Anæmia	...	...	...	3	2
Ankylostomiasis	...	...	...	2	...
Bowel disorders	...	...	...	47	4
Malaria	...	...	...	25	...
Phthisis	...	...	...	3	2
Ulcers	...	...	...	222	...
Venereal disease	...	...	...	81	...

**Bukit Tambun Estate.**

Average number of coolies on estate in 1914:—229 (all Tamils).

Admissions to hospital (Government)	...	...	...	35
Deaths in hospital	...	...	...	Nil.

The principal diseases treated were:—

				<i>Cases..</i>
				—
Bowel disorders	...	...	...	4
Malaria	...	...	...	8
Ulcers	...	...	...	6
Venereal diseases	...	...	...	7

**Caledonia (including Victoria, Jawi, Krian, Trans-Krian and Changkat Estates).**

Average number of coolies employed in 1914:—Tamils 4,300, Javanese 544, Chinese 540.

Admission to hospital	...	...	...	1,302
Deaths in hospital	...	...	...	69
Percentage of deaths to total treated	...	...	...	2·38%

The principal diseases treated were:—

				<i>Cases.</i>	<i>Deaths.</i>
Anæmia	...	...	...	5	1
Ankylostomiasis	...	...	...	32	3
Bowel disorders	...	...	...	218	18
Malaria	...	...	...	184	4
Phthisis	...	...	...	12	5
Ulcers	...	...	...	222	...
Venereal diseases	...	..	...	92	...

The large new hospital erected in 1913 is now in occupation.

**Malakoff Estate.**

Average number of coolies in 1914:—Tamils 550, Javanese 27, Chinese 6.

Number of admissions to hospital	...	...	...	241
Number of deaths in hospital	...	...	...	4
Percentage of deaths to total treated	...	...	...	0·68%

The principal diseases treated were:—

				<i>Cases.</i>	<i>Deaths.</i>
Bowel disorders	...	...	...	41	2
Venereal disorders	...	...	...	14	...
Ulcers	...	...	...	38	...
Anæmia	...	...	...	6	...

**Juru Estate.**

Average number of coolies on estate in 1914:—Tamils 375, Malays 14, Chinese 15.

Number of admissions to hospital	...	...	...	11
Number of deaths in hospital	...	...	...	5
Percentage of deaths to total coolie population	...	...	...	3·75%

A good many cases were treated as out-patients in this estate.

The principal diseases treated were:—

				<i>Cases.</i>	<i>Deaths.</i>
Anæmia	...	...	...	15	1
Ankylostomiasis	...	...	...	50	8
Bowel disorders	...	...	...	40	2
Malaria	...	...	...	100	...
Ulcers	...	...	...	200	...
Venereal disorders	...	...	...	20	2

Latrines of the pail-type were erected in 1914 and are now in use. Patients are sent to the Government Hospital.

**Prye Estate.**

Average number of coolies in 1914 :—Tamils 976, Javanese 257.

Number of admissions to hospital	...	...	...	158
Number of deaths in hospital	...	...	...	9
Percentage of deaths to total coolie population	...	...	...	1.95%

The principal diseases treated were :—

				<i>Cases.</i>	<i>Deaths.</i>
Ankylostomiasis	...	...	...	13	...
Bowel disorders	...	...	...	23	5
Malaria	...	...	...	1	...
Phthisis	...	...	...	3	1
Ulcers	...	...	...	10	...
Venereal disorders	...	...	...	32	...

**Val. d'or Estate.**

Average number of coolies on estate in 1914 :—Tamils 269, Javanese 134, Chinese 56.

Admissions to hospital	...	...	...	...	355
Deaths in hospital	...	...	...	...	2
Percentage of deaths to total coolie population	...	...	...	...	.3%

The principal diseases treated :—

				<i>Cases.</i>	<i>Deaths.</i>
Bowel Disorders	...	...	...	60	2
Malaria	...	...	...	8	...
Ulcers	...	...	...	102	...
Venereal disorders	...	...	...	43	...

The following estates have also been visited :—Bukit Toh Alang, Golden Grove, Sungai Duri, Victoria, Permatang Park, Tassek Glugore, Jawi, Bakap. The last named estate has a hospital which was empty at my last inspection. New coolie lines of an improved pattern have been erected.

The water supply to the Southern district in Province Wellesley has been greatly improved by the removal of buried tree trunks, and other debris from the bed of the reservoir. The water is now largely used for drinking.

An outbreak of Cholera in the Northern and Central divisions of the Province occurred during the year. It was not wide-spread. It seemed to originate in Kedah. It was easily suppressed.

Particulars of the number of cases will be found in the report of the Medical Officer, Province Wellesley.

The following schools were examined in Penang during the last quarter 1914, and the number set down against each school represents the number of children re-vaccinated at the school :—

Anglo-Chinese	...	...	...	...	153
St. George's Tamil	...	...	...	...	9
Kampong Bahru	...	...	...	...	12
Chowrasta	...	...	...	...	35
Carnavon Street	...	...	...	...	10
Dato Kramat...	...	...	...	...	15
Glugor	...	...	...	...	21
Jelutong	...	...	...	...	26
Kampong Java	...	...	...	...	25
Kelawei	...	...	...	...	13
McAlister Road	...	...	...	...	14
Relau	...	...	...	...	11
Sungai Nibong	...	...	...	...	14
Tangong Tokong	...	...	...	...	24
	...	...	...		
				Total	382

The schools at Telok Bahang, Bagan Lepas, and Telok Kumbar were also examined.



## APPENDIX D.

## MALACCA.

## HOSPITALS.

REPORT BY DR. A. H. KEUN, M.B., B.Ch., *Chief Medical Officer.*

The population is made up as follows:—

Europeans	...	...	...	...	329
Eurasians	...	...	...	...	1,665
Chinese	...	...	...	...	38,362
Malays	...	...	...	...	85,288
Indians	...	...	...	...	8,117
Others	...	...	...	...	464
Total	...	...	...	...	134,225

*Births.*—Four thousand seven hundred and forty-one were registered in 1914, as contrasted with 4,506 in 1913 and 4,885 in 1912.

The following table shows the nationality:—

Europeans	...	...	...	...	13
Eurasians	...	...	...	...	58
Chinese	...	...	...	...	912
Malays	...	...	...	...	3,507
Indians	...	...	...	...	137
Others	...	...	...	...	114
Total	...	...	...	...	4,741

Of these 2,429 were males and 2,312 females.

The birth-rate was 35.32 per cent.

*Deaths.*—Five thousand one hundred and seventy-six were registered in 1914, as contrasted with 5,333 in 1913 and 6,274 in 1912.

Europeans	...	...	...	...	3
Eurasians	...	...	...	...	56
Chinese	...	...	...	...	1,466
Malays	...	...	...	...	3,063
Indians	...	...	...	...	501
Others	...	...	...	...	87
Total	...	...	...	...	5,176

Of these, males numbered 3,216, females 1,960.

Comparing the death-rate for 1914 with that of 1913 and 1912 a considerable decrease is to be noticed.

Death-rate	1914	...	...	...	38.56
„	1913	...	...	...	40.78
„	1912	...	...	...	49.09

Of these 5,176 deaths shown, 598 occurred in hospitals, 34 were certified by Registered Medical Practitioners, 757 were registered after death and 3,787 were not certified.

Vaccinations were carried out energetically, throughout the year:—

January	...	...	...	...	339
February	...	...	...	...	588
March	...	...	...	...	691
April	...	...	...	...	492
May	...	...	...	...	553
June	...	...	...	...	637
July	...	...	...	...	569
August	...	...	...	...	470
September	...	...	...	...	631
October	...	...	...	...	498
November	...	...	...	...	1,093
December	...	...	...	...	1,839

I append a table \* showing nationalities of those vaccinated.

*Municipality.*—The estimated population for the Municipality for 1914 is 22,047. Within Municipal limits there were 679 births and 889 deaths. Malaria was responsible for 232 deaths, Convulsions 152, Phthisis 71, 236 of these deaths occurred in infants under one year of age.

There were 27 deaths from Tetanus among infants, as contrasted with 46 in 1913, and 47 in 1912.

It was with the view of combating the Tetanus mortality that lectures to midwives were started in 1912 and 1913 in the Malay language and they were taught the antiseptic care of their cases, the dressing of the cord, etc. The Lady Inspector supplied the names of all midwives within Municipal limits in whose practice Tetanus occurred and these were interviewed. In addition antiseptics, cotton wool and lint were supplied free to all midwives and after confinements the Lady Inspector instructed the mothers as to the care of the cord and the general cleanliness of the child. It is interesting to note as illustrating the good effects of the lectures and the supplying of free antiseptics, etc., that of the 27 deaths from Tetanus reported by the Lady Inspector, 25 occurred among cases with no midwives in attendance.

With the view of decreasing the infantile mortality from convulsions the Lady Inspector paid special attention to the instruction of mothers and nurses, on the proper feeding of infants. In addition she called in medical help to all cases brought to her notice and we gave free treatment. As many of the poor were unable from bad health or debility to nurse their own infants, and some had not the means of purchasing milk, sanction was obtained from the Municipality to supply free milk on an order from the Lady Inspector and thus 804 tins of condensed milk were supplied to various mothers during the year.

*Public Health Measures.*—The following Public Health improvements have been carried out by the Public Works Departments:—

	\$
(1) The making and concreting of 1,785 lineal feet of roadside drains at Pulau Sebang at a cost of ...	2,856
(2) Clearing and weeding of Dyong River ...	761
(3) Clearing and deepening Sungai Malim ...	422
(4) Clearing and deepening Lorong Pandan drain ...	475
(5) Renewing main pipes of water service Durian Daun Hospital at a cost of ...	3,250
(6) Renewing latrines to wards, Durian Daun Hospital ...	3,000

The Municipality, Malacca, had the following done:—

- (1) One thousand eight hundred and seventy-five feet of earth drain have been converted into brick and concrete drains in various parts of the town. Wells in private houses and grounds were kept under the strict supervision of the Sanitary Inspectors, and numerous orders to have them cleaned or closed were issued.

The Rural Board had a concrete drain constructed at Tampoi Village for a length of 1,785 feet.

**Durian Daun Hospital.**

*Buildings.*—The old attap roofs of the passages between wards were replaced by ruberoid. In November the new European Hospital with adjoining Nurses' Quarters were completed and it was at once put into use.

The old European ward was remodelled and converted into quarters for the 2nd Assistant Surgeon, while the quarters he had previously been occupying were converted into a home for Chinese girls under the Chinese Protectorate.

The water supply to the Hospital has been improved by connecting up directly with the main.

**General Hospital.**

*Work done.*—General Hospital:—

Remained 31st December, 1913	...	...	...	47
Admitted 1914	...	...	...	984
Discharged ...	...	...	...	855
Transferred ...	...	...	...	23
Absconded ...	...	...	...	52
Died ...	...	...	...	70
Remaining 31st December, 1914	...	...	...	31
Average daily sick	...	...	...	41.73

The number of Europeans admitted was 66 with no deaths as compared with 54 in 1913 with no deaths.

Percentage of deaths to total treated	...	...	...	6.7
---------------------------------------	-----	-----	-----	-----

The principal diseases treated were:—

Beri-beri	...	...	29	with	10	deaths.
Dysentery	...	...	24	"	10	"
Malaria	...	...	327	"	22	"
Pneumonia	...	...	15	"	5	"
Bronchitis	...	...	16	"	0	"
Diarrhœa	...	...	34	"	13	"
Nephritis	...	...	9	"	2	"
Abscesses	...	...	18	"	0	"
Ulcers	...	...	55	"	0	"
Injuries	...	...	135	"	4	"
Ankylostomiasis	...	...	21	"	5	"

*Medico-legal work.*—One hundred and sixty-five cases attended to.

Number of Necropsies	...	...	46	
„ Exhumations	...	...	2	
„ Operations	...	...	507	major and minor, list attached.

The Quarantine Camp was not occupied during the year.

**Pauper Hospital.**

Remained 31st December, 1913	...	...	...	259
Admitted 1914	...	...	...	3,937
Discharged	...	...	...	3,532
Transferred	...	...	...	3
Absconded ...	...	...	...	53
Died ...	...	...	...	408
Remaining 31st December, 1914	...	...	...	200
The daily average was	...	...	...	294.16

The percentage of deaths to total treated was 9.7 as compared with 10.52 in 1913.



*Principal diseases treated were:—*

Beri-beri	...	...	343	with	40 deaths.
Dysentery	...	...	99	"	50 "
Gonorrhœa	...	...	66	"	0 "
Malaria	...	...	1,549	"	112 "
Pneumonia	...	...	57	"	24 "
Syphilis	...	...	112	"	1 "
Bronchitis	...	...	42	"	0 "
Phthisis	...	...	115	"	54 "
Diarrhœa	...	...	113	"	49 "
Cirrhosis liver	...	...	27	"	9 "
Chronic Nephritis	...	...	57	"	12 "
Chancroids	...	...	31	"	0 "
Abscesses	...	...	51	"	0 "
Ulcers	...	...	744	"	0 "
Ankylostomiasis	...	...	143	"	22 "

**The Women's Hospital.****Female—General.**

Remained 31st December, 1913	...	...	...	4
Admitted 1914	...	...	...	69
Discharged	...	...	...	60
Transferred	...	...	...	1
Absconded	...	...	...	2
Died	...	...	...	6
Remaining 31st December, 1914	...	...	...	4

*Principal diseases treated:—*

Malarial Fever	...	...	...	14 with	0 deaths.
Gonorrhœa	...	...	...	3 "	0 "
Dysentery	...	...	...	2 "	1 "
Diarrhœa	...	...	...	7 "	3 "
Chancroids	...	...	...	2 "	0 "
Wounds	...	...	...	5 "	0 "
Fractures	...	...	...	2 "	0 "
Ankylostomiasis	...	...	...	8 "	2 "
Daily average	...	...	...		3'08

*Nationality:—*

Tamils	...	...	...	...	46
Chinese	...	...	...	...	15
Malays	...	...	...	...	3
Javanese	...	...	...	...	3
Japanese	...	...	...	...	1
Eurasian	...	...	...	...	1

**Female—Pauper.**

Remained 31st December, 1913	...	...	...	24
Admitted 1914	...	...	...	160
Discharged	...	...	...	155
Absconded	...	...	...	4
Died	...	...	...	11
Remaining 31st December, 1914	...	...	...	14
The daily average was	...	...	...	14'06

*The principal diseases treated were:—*

Dysentery and Diarrhoea	...	...	8 with 2 deaths.
Malarial Fever	...	...	38 „ ... „
Gonorrhoea	...	...	17 „ ... „
Syphilis	...	...	13 „ ... „
Chancroids	...	...	10 „ ... „
Phthisis	...	...	8 „ 2 „
Ulcers	...	...	8 „ ... „
Uterine	...	...	3 „ 1 death.
Puerperal Fever	...	...	1 „ 1 „
Ankylostomiasis	...	...	1 „ ... „

*Nationality:—*

Chinese	...	...	...	86
Tamils	...	...	...	30
Eurasians	...	...	...	16
Malays	...	...	...	15
Javanese	...	...	...	4
Japanese	...	...	...	8
Sikhs	...	...	...	1
Total				160

*List of operations:—*

Abscesses incised	...	...	...	105
Abscess liver	...	...	...	1
Aspiration pleural cavity	...	...	...	4
„ knee joint	...	...	...	4
Amputations	...	...	...	10
Breaking down adhesions	...	...	...	2
Cauterisation	...	...	...	1
Circumcisions	...	...	...	17
Curetting Ulcers	...	...	...	123
Cellulitis incision	...	...	...	8
Entropion	...	...	...	2
Enucleation glands	...	...	...	5
Extraction teeth	...	...	...	15
Excision varicose veins	...	...	...	2
„ uvula	...	...	...	2
„ testicle	...	...	...	2
Empyemata incised drained	...	...	...	4
Hernia Radical cure	...	...	...	2
Hydrocele Radical cure	...	...	...	3
Ligaturing arteries	...	...	...	2
Paracentesis	...	...	...	166
„ Cephalic for hydrocephalus	...	...	...	1
Piles ext. and internal	...	...	...	5
Reduction dislocation shoulder	...	...	...	4
Removal retained placenta	...	...	...	1
„ fibroma	...	...	...	1
„ Lipoma	...	...	...	1
„ Condylomata	...	...	...	1
Skin Grafting	...	...	...	8
Suprapubic cystotomy	...	...	...	1
Sequestrotomy	...	...	...	3
Uniting severed tendo Achillis	...	...	...	1
Total				507

*Malay Admissions.*—This year saw an increase in the admission of Malays to hospital and several came for operative treatment. All the operations done were successful. A special ward was set apart for them, and a Malay cook provided. The admissions were 291 (males 266, females 25) with 6 deaths as compared with 233 and 16 deaths in 1913.

The major operations performed were :—

Radical cure, Inguinal hernia 2, Suprapubic Cystotomy for a large calculus in a Malay child 1, Penetrating Stab Wound of stomach 1.

Minor operations.—18 with good results.

The principal diseases treated were :—

Beri-beri	...	...	...	19 cases with 1 death.
Dysentery	...	...	...	5 „ „ 1 „
Malarial Fever (Malignant)	...	...	141	„ „ 1 „
Pneumonia	...	...	2	„ „ ... „
Syphilis	...	...	6	„ „ ... „
Ulcers	...	...	65	„ „ ... „
Ankylostomiasis	...	...	5	„ „ ... „

Two Malay females were admitted for Puerperal Septicæmia and Retention of Placenta. Each had been confined in her respective village and been tampered with by local so-called midwives, both unfortunately proved fatal.

#### Jasin Hospital.

On December 31st, 1913, there remained 50 cases under treatment. There were 857 admissions (males 778, females 69) of which 335 came from estates, 8 were paying cases, 31 were sent in by the Police and the remainder paupers. There were 120 deaths (males 107, females 13). Of the total deaths 46 died within 48 hours.

The chief diseases treated were :—

Malignant Malaria	...	231 cases with 34 deaths (13 died within 48 hours)
Chronic Malaria	...	68 „ „ 2 „ ( 2 „ „ „ „ )
Dysentery	...	59 „ „ 20 „ ( 5 „ „ „ „ )
Beri-beri	...	55 „ „ 6 „ ( 2 „ „ „ „ )
Ankylostomiasis	...	52 „ „ 6 „ ( 2 „ „ „ „ )
Pneumonia	...	39 „ „ 20 „ (12 „ „ „ „ )
Bright's Disease	...	31 „ „ 9 „ ( 1 „ „ „ „ )
Syphilis	...	24 „ „ ... „
Abscess	...	21 „ „ ... „
Ulcers	...	62 „ „ ... „

The percentage of deaths to total treated was 13·23, excluding deaths within 48 hours it was 8·15.

June was the month of greatest admissions, viz., 104 cases. February of least admissions, viz., 46 cases. The chief variety of Malaria was subtertian.



Several operations were done during the year—

Incision Abscess	...	...	...	...	30
„ Cellulitis	...	...	...	...	7
Slitting up and scraping sinuses	...	...	...	...	7
Paracentesis abdominis	...	...	...	...	26
„ Thoracis	...	...	...	...	2
„ Anterior chamber of eye hypopyon	...	...	...	...	1
Enucleation buboes and suppurating glands	...	...	...	...	10
Extraction teeth	...	...	...	...	10
Scraping ulcers	...	...	...	...	4
Catheterization for stricture urethra	...	...	...	...	1
Dilatation stricture rectum for intestinal obstruction	...	...	...	...	1
Reduction strangulated hernia	...	...	...	...	2
Reduction dislocation elbow joint	...	...	...	...	1
Circumcision	...	...	...	...	4
Exploration chest	...	...	...	...	1
Incision knee joint	...	...	...	...	1
Total					108

There was an outbreak of measles in Jasin District and 21 cases were sent to the Isolation Camp, no deaths occurred. One case of chicken-pox was admitted to the Camp.

*Hospital Buildings.*—Various minor works, *e.g.*, repairs to floors and attap roofing of wards and outhouses were done during the year. A portion of the first General Ward was partitioned off for Malays and a special kitchen built for them. As a new Hospital is in contemplation no large works were done.

*Police Admissions.*—Police admissions were 27, two of whom were transferred to Durian Daun Hospital. Seventeen bodies were sent in for post-mortem examination of which 16 were certified as having died from natural causes, one was a murder case.

Forty-six post-mortem examinations were held.

#### Gaol Hospital.

On January 1st, 1914, there were two cases under treatment in the Gaol Hospital. There were 92 admissions during the year making a total of 94 treated with two deaths, both of which were among vagrants who were admitted in a very debilitated condition. Of 168 vagrants admitted into Prison 48 were transferred to the Prison Hospital. The chief diseases treated were Malarial fever 26 cases, Dysentery 6 cases (with 1 death), Diarrhoea 6 cases, Colitis 4 cases, Ankylostomiasis 6 cases (with 1 death), Anæmia 6 cases, Ulcers 6 cases.

#### MEDICAL MISSION.

This year saw the continuance of the good work of the Medical Mission among the natives. Working in out of the way districts of Malacca, miles away from the Government Hospitals and Dispensaries, Dr. WARREN and her staff have been able to reach a class of patients who would otherwise have remained untreated or under

native treatment only. Dr. WARREN has kindly submitted the following statistics for the year:—

**Report for the Year 1914, Medical Mission.**

New patients	...	...	...	...	3,286
Total attendances	...	...	...	...	5,324
Malay attendances	...	...	...	...	2,743
In-patients	...	...	...	...	84

**Attendances for:—**

Ophthalmic diseases	...	...	...	...	279
Gynæcological	...	...	...	...	462
Venereal	...	...	...	...	404
Malaria and complications	...	...	...	...	1,006
Beri-beri	...	...	...	...	183
Surgical Dressings	...	...	...	...	1,165
Dental Extractions	...	...	...	...	75
Operations (mostly minor)	...	...	...	...	86

Maternity work unfortunately remains unsatisfactory and few patients send for or come for treatment unless suffering from Exhaustion or Sepsis.

I attach the return of diseases and deaths in 1914 in the Medical Mission Hospital.

DISEASES IN-PATIENTS.	Remaining in Hospital at end of 1913.	YEARLY TOTAL.		Total Cases Treated.	Remaining in Hospital at end of 1914.	REMARKS.
		Admis- sions.	Deaths.			
Asphyxia Neonatorum	...	4	...	4	...	Cured.
Asthma	...	1	...	1	...	Improved.
Beri-beri	...	2	...	2	...	"
Carcinoma	...	1	...	1	...	Not improved.
Consumption (Phthisis)	...	5	2	5	1	2 died, 3 improved.
Dengue	...	1	...	1	...	Cured.
Child-birth	...	10	1	10	...	1 mother had Tetanus.
Eclampsia (Puerperal)	2	...	1	2	...	1 Cured.
Jaundice (Icterus Neonatorum)	...	1	...	1	...	Cured.
Gonorrhœa	...	4	...	4	...	Improved.
Debility	...	8	...	8	...	"
Malaria	1	9	2	10	...	8 Improved.
Pneumonia	...	3	2	3	...	1 Cured.
Rheumatism	...	1	...	1	...	Improved.
Multiple Injuries	...	6	1	6	...	5 Cured.
Measles	...	1	...	1	...	"
Bronchitis	...	3	...	3	...	Improved.
Hæmophilia	...	1	See Remarks.	1	...	Patient went home (aged one month) a few weeks before his death.
Valvular Heart disease	...	5	1	5	...	4 Improved.
Septicæmia (after head injuries)	...	1	...	1	...	Cured.
Sunstroke	...	1	...	1	...	Improved.
Sprue	...	1	...	1	...	Unchanged.
Syphilis	...	2	...	2	...	Improved.
Worms	...	3	...	3	...	Cured.
Umbilical Sepsis	...	1	1	1	...	Died.
Small-pox	...	1	1	1	...	"
Ulcerated leg	1	...	...	1	...	Cured.
Unknown	...	1	1	1	...	Died.
Dysentery	...	3	...	3	...	Improved.
Total	4	80	13	84	1	

## ESTATE HOSPITALS.

**Diamond Jubilee Estate Hospital.**

This hospital is visited by a Medical Officer and is under the charge of a sub-assistant surgeon. There were 1,536 cases treated with 37 deaths while the out-patient department showed 3,492 cases treated.

The chief diseases were:—

Malarial Fever	...	...	923 cases with 7 deaths.
Dysentery	...	...	106 „ „ 6 „
Diarrhœa	...	...	31 „ „ 1 „
Beri-beri	...	...	21 „ „ 0 „
Ankylostomiasis	...	...	93 „ „ 0 „
Bronchitis	...	...	26 „ „ 1 „
Wounds	...	...	29 „ „ 3 „
Ulcers	...	...	63 „ „ 0 „

**Merlimau Estate.**

The total number of admissions was 478 cases with 9 deaths.

The chief diseases treated were:—

Malaria (not differentiated)	...	...	218 cases with 5 deaths.
Dysentery	...	...	67 „ „ 0 „
Diarrhœa	...	...	37 „ „ 1 „
Measles	...	...	34 „ „ 0 „
Ankylostomiasis	...	...	22 „ „ 0 „
Bronchitis	...	...	16 „ „ 0 „
Wounds	...	...	12 „ „ 0 „

The total labour force was 1,566.

This estate is visited by a Medical Officer, the hospital being under the charge of dressers.

**Bukit Asahan Estate Hospitals.**

Bukit Asahan Estate possesses a Central Hospital at Head Quarters and two subsidiary hospitals at D and I.

During the year there were 2,761 cases treated at these hospitals with 80 deaths. The total labour force for 1914 was 2,305. This gives a mortality of 34.70 per mille per annum.

The chief diseases treated were:—

Malarial Fever	...	...	1,382 cases with 15 deaths.
Dysentery	...	...	248 „ „ 25 „
Enteritis	...	...	126 „ „ 0 „
Beri-beri	...	...	75 „ „ 11 „
Pneumonia	...	...	62 „ „ 14 „
Ankylostomiasis	...	...	30 „ „ 0 „

Dr. GRAHAM, the Medical Officer, went on leave on February 1st and was succeeded by Dr. TODD.



## APPENDIX E.

## OUT-DOOR DISPENSARIES.

## SINGAPORE.

## (North Canal Road).

REPORT BY MR. F. CLARKE, *Assistant Surgeon in charge.*

The number of patients who attended the Dispensary during the year was 9,687 as against 11,505 in 1913, a decrease of 1,818.

The number of visits amounted to 31,305, giving a daily average attendance of 105.05.

The total receipts for the year amounted to \$2,562.95 as compared with \$3,467.05 for 1913.

The decrease in the attendance was probably due to the opening of a new Out-Door Dispensary at Jalan Klapa, and the opening of two Free Women and Childrens' Dispensaries by Lady Doctors.

The principal diseases treated, compared with those of last year, are as follows:—

	1913.	1914.
	—	—
Malaria ... ..	1,654	1,139
Venereal Diseases ... ..	1,494	1,088
Ulcers ... ..	2,020	1,677
Bronchitis ... ..	558	467
Minor Injuries ... ..	383	414

The nationalities of the patients were:—

Europeans ... ..	7	4
Eurasians ... ..	392	314
Chinese ... ..	7,291	6,655
Malays ... ..	1,053	685
Natives of India ... ..	2,025	1,291
Others ... ..	737	738

*Malaria.*—One thousand one hundred and thirty-nine cases were treated during the year.

The nationalities were as follows:—

Europeans ... ..	4
Eurasians ... ..	16
Chinese ... ..	374
Malays ... ..	130
Natives of India ... ..	515
Japanese ... ..	98
Jews ... ..	2

The majority of the cases gave a history of having been infected previous to their arrival in the Settlement and they were mostly from the following places:—Johore, neighbouring Islands, Malacca, Federated Malay States and India.

Those infected in the Settlement were chiefly from Keppel Harbour, Tanjong Pagar, Sepoy Lines, Havelock Road, Serangoon, Gaylang, Bukit Timah, Tanglin, Pulo Ubin and Pulo Brani.

*Venereal Diseases.*—One thousand and eighty-eight cases were treated during the year.

All of them received free treatment.

Of the total cases treated there were :—

				Males.	Females.
				—	—
Syphilis, Primary	...	...	238	227	11
„ Secondary	...	...	246	218	28
„ Tertiary	...	...	82	65	17
Soft Chancre	...	...	213	188	25
Gonorrhœa	...	...	204	193	11
Bubo	...	...	105	93	12
				—	—
Total	...		1,088	984	104
				—	—

The nationalities were :—

				Males.	Females.
				—	—
Europeans	...	...	...	1	...
Eurasians	...	...	...	4	...
Chinese	...	...	...	843	92
Malays	...	...	...	21	1
Natives of India	...	...	...	98	11
Others	...	...	...	17	...

According to their statements 98·17 per cent of the males contracted the diseases in brothels.

Of the 104 females treated, 98 were from brothels.

The majority of these cases were of Secondary Syphilis, who had not received proper treatment in the primary stage of the disease. Patients with Primary Syphilis generally cease treatment as soon as the Chancre is healed.

Thirteen cases of inherited Syphilis were treated during the year.

*Ulcers* show a decrease of 343 cases. As usual the greater number of these are the result of improper treatment of minor injuries.

Two hundred and forty-eight children below one year of age were treated during the year, 68 of whom suffered from gastric and intestinal complaints arising out of faulty feeding.

Condensed milk is chiefly used, and nearly invariably given in feeding bottles with long rubber tubing.

#### Jalan Klapa Out-Door Dispensary.

REPORT BY MR. P. C. FERNANDEZ, *Assistant Surgeon in charge.*

1. The number of patients treated during the year was 3,722 and the number of visits paid was 13,298, giving a daily average attendance of 46·82.

2. The fees collected for the whole year amounted to \$1,008.90.

3. The nationalities of those treated were as follows :—

				Males.	Females.
				—	—
Europeans	...	...	...	7	1
Eurasians	...	...	...	68	84
Chinese	...	...	...	1,095	141
Malays	...	...	...	1,076	465
Indians	...	...	...	660	98
Others	...	...	...	23	4
				—	—
Total	...			2,929	793
				—	—

4. From the above it will be seen that Malays including Arabs, Javanese, Boyanese, Bugis, and Malays proper, form about 41 per cent of the total treated and of the 793 females treated 465, *i.e.*, 58·63 per cent are Malays.

The chief diseases treated were :—

Malaria	...	...	...	...	381 Cases.
Venereal diseases	...	...	...	...	655 „
Ulcers	...	...	...	...	527 „
Bronchitis	...	...	...	...	209 „
Fever (unspecified)	...	...	...	...	134 „

5. Blood films and sputa were examined only in suspected Malaria and Phthisis cases respectively.

6. Two hundred and forty-four of the malarial cases gave a history of being infected outside Singapore and these came from Johore 118, Rhio 53, Muar 27, Dutch Islands 23, India 9, Malacca 3, Kelantan 3, Tringganu 3, Perak 3 and Selangor 2. Many of the remaining 137 cases of Malaria residing in Singapore came from Bukit Timah, Upper Serangoon and Gaylang Districts.

7. The majority of the Venereal diseases seen were cases of Primary Syphilis; about 50 per cent being Malays. Fifty-two cases suffering from Secondary Syphilis attended. Out of the 655 cases, 550 males (or 84 per cent) contracted the infection in brothels, 35 cases treated were females.

8. It is satisfactory to note that a large number of cases of minor injuries attended for treatment promptly with the result that the majority were cured within a few days. The larger ulcer cases presented themselves only after native remedies had failed.

9. Ninety-one children under one year old were treated during the year and of these 37 suffered from lung diseases, (Bronchitis, Broncho-pneumonia and Lobar-pneumonia) and 26 from intestinal complaints. The other 28 suffered from Fever, Convulsions, Scabies, Eczema, etc.

The practice of native mothers in using bottles with long rubber tubing for feeding their children, as described by Mr. J. V. PESTANA in his annual report for 1912, is still persisted in with the result that many infants suffer from Diarrhœa and other intestinal complaints. The only reason given, for the use of these feeders, being the facility with which the child can be left with the bottle, whilst being fed, so that the mothers may attend to their daily duties either in the kitchen or at the wash-tub.

## PENANG.

### Chowrasta Dispensary.

Appended is a table showing the work done during the year.

The Dispensary was opened for 311 days during the year, the daily average number of visits being 50·41 as against 66·32 in 1913.

The visits of free and of paying patients fell off by 224 and 1,609 respectively; while those of the indigent patients increased by 758.

All these changes began in August.

The principal diseases treated were :—

Malaria	...	...	...	...	181
Fevers (unclassified)	...	...	...	...	758
Rheumatism	...	...	...	...	822
Syphilis	...	...	...	...	128
Bronchitis	...	...	...	...	338
Diarrhœa	...	...	...	...	90
Dyspepsia	...	...	...	...	127
Ulcers	...	...	...	...	1,431
Injuries	...	...	...	...	522



The nationalities of those treated were as follows :—

				1913.	1914.
				—	—
Europeans	...	...	...	36	8
Eurasians	...	...	...	377	289
Chinese	...	...	...	3,336	3,032
Malays	...	...	...	1,153	793
Natives of India	...	...	...	2,697	2,436
Others	...	...	...	102	70

Comparative statement showing the number of patients attending the Government Out-door Dispensary, Penang, from 1905 to 1914 :—

	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Number of patients attended	6,504	7,046	6,876	7,179	7,693	8,328	7,648	7,477	7,701	6,628
„ of visits paid	11,259	11,427	11,990	14,362	15,004	16,535	16,762	16,051	19,134	15,679
Patients treated free	2,624	3,353	3,095	3,077	3,436	3,519	2,747	2,688	2,010	1,786
Indigent patients	218	278	196	319	616	558	756	782	1,170	1,928
Paying patients	3,662	3,415	3,585	3,783	3,641	4,251	4,145	4,007	4,521	2,914
Average Number of visits per diem	38.16	38.44	40.50	46.93	48.04	82.99	53.72	51.44	61.32	50.41
Number of days dispensary open	295	298	296	306	310	312	312	312	312	311
Receipts for the year	\$ 840.56	758.26	866.90	972.15	921.60	1,047.45	1,003.20	973.80	1,101.30	736.65

#### Out-Door Dispensary, Lumut.

The number of cases treated was 522 as compared with 721 in 1913.

The daily average number of visits for the year was 2.68 as compared with 2.74 in 1913.

Of 522 cases treated, 276 were Malarial fever, 480 cases were from the District of Dindings and 42 from Sitiawan.

The receipts for the year were \$58.67.

#### Out-Door Dispensary, Balik Pulau.

During the year 879 patients sought treatment as compared with 736 in 1913.

The average number of visits per day was 4.92, as compared with 3.72 the preceding year.

*Table showing work done.*

				1913.	1914.
				—	—
Number of patients	...	...	...	736	879
„ „ visits	..	...	...	1,369	1,845
„ „ indigent patients	...	...	...	51	159
„ „ Government servants	...	...	...	193	196
„ „ paying patients	...	...	...	495	524
„ „ males	...	...	...	510	675
„ „ females	...	...	...	226	204
Average number of visits per diem...	...	...	...	3.72	4.92
Receipts for the year	...	...	...	\$119.30	\$123.15

*Nationalities of those treated.*

Nationality.	1914.			1913.
	Males.	Females.	Total.	Total.
Europeans ... ..	6	1	7	7
Eurasians ... ..	3	...	3	15
Chinese ... ..	440	168	608	478
Malays ... ..	107	25	132	142
Indians ... ..	116	10	126	87
Others ... ..	3	...	3	7
Total ...	675	204	879	736

**Out-door Dispensary, Butterworth.**

Total number of cases treated:—

Male ... ..	...	...	...	1,019
Female ... ..	...	...	...	125
Total ...				1,144

Number of visits paid	...	...	...	2,485
Paying patients ...	...	...	...	532
Government servants	...	...	...	540
Paupers ... ..	...	...	...	72

**Out-door Dispensary, Bukit Mertajam.**

The number of out-patients treated was 3,311 and the receipts for the year amounted to \$418.11 as compared with 2,808 and \$420.74 of the previous year.

The nationalities of the patients were:—

Europeans ... ..	...	...	...	46
Eurasians ... ..	...	...	...	147
Chinese ... ..	...	...	...	1,481
Malays ... ..	...	...	...	324
Indians ... ..	...	...	...	1,250
Others ... ..	...	...	...	63

The principal diseases treated were:—

Dysentery ... ..	...	...	...	49
Gonorrhœa ... ..	...	...	...	57
Pyrexia ... ..	...	...	...	558
Rheumatism ... ..	...	...	...	119
Syphilis ... ..	...	...	...	141
Anæmia ... ..	...	...	...	11
Conjunctivitis ... ..	...	...	...	31
Bronchitis ... ..	...	...	...	239
Phthisis ... ..	...	...	...	13
Indigestion ... ..	...	...	...	112
Diarrhœa ... ..	...	...	...	59
Bubo ... ..	...	...	...	32
Soft Chancre ... ..	...	...	...	55
Wounds ... ..	...	...	...	1,120
Helminthiasis ... ..	...	...	...	72

### Out-Door Dispensary, Sungai Bakap.

One thousand two hundred and seventy-two patients were treated during the year as compared with 904 in the previous year. The collections amounted to \$203.30 as compared with \$167.24 for 1913.

(a) The nationalities of the out-patients treated were as follows :—

				<i>Males.</i>	<i>Females.</i>
				—	—
Europeans	...	...	...	25	13
Eurasians	...	...	...	7	3
Chinese	...	...	...	597	210
Malays	...	...	...	73	24
Natives of India	...	...	...	221	65
Others	...	...	...	21	13
				—	—
Total	...			944	328
				—	—

(b) The principal diseases treated were as follows :—

<i>Diseases.</i>				<i>No. of cases.</i>
—				—
Anæmia	...	...	...	16
Diarrhœa	...	...	...	16
Dysentery	...	...	...	13
Gonorrhœa	...	...	...	32
Helminthiasis	...	...	...	13
Malaria	...	...	...	165
Soft Chancre	...	...	...	26
Syphilis	...	...	...	48
Tuberculosis	...	...	...	4
Wounds	...	...	...	342

### Out-Door Dispensary, Nibong Tebal.

*Buildings.*—The Dispensary is held in the witness room of the courthouse and this building has proved suitable for it.

*Staff.*—The Assistant Surgeon and the junior dresser from Sungai Bakap Hospital attend the Dispensary on three days a week from 8 to 10 A.M.

*Work done.*—The popularity of the Dispensary is increasing and it was opened on 157 days in the year as compared with 114 days in the previous year. Eight hundred and fifty-five patients attended the Dispensary as compared with 596 in the previous year, of these 499 were Government Officers including their families, 284 paying and 72 indigent patients. The daily average number of visits were 10.61 as compared with 9.68 in 1913. The collections amounted to \$70.30 as compared with \$53.20 in the previous year. The drugs and dressings were supplied from Sungai Bakap Hospital.

The nationalities of the out-patients treated were as follows :—

<i>Nationality.</i>				<i>Males.</i>	<i>Females.</i>
—				—	—
Europeans	...	...	...	7	...
Eurasians	...	...	...	28	9
Chinese	...	...	...	265	60
Malays	...	...	...	100	15
Natives of India	...	...	...	250	110
Others	...	...	...	10	1
				—	—
Total	...			660	195
				—	—



The principal diseases treated were:—

<i>Diseases.</i>					<i>No. of cases.</i>
Anæmia	...	...	...	...	6
Diarrhœa	...	...	...	...	11
Dysentery	...	...	...	...	9
Gonorrhœa	...	...	...	...	14
Helminthiasis	...	...	...	...	25
Malaria	...	...	...	...	66
Pneumonia	...	...	...	...	3
Soft Chancre	...	...	...	...	12
Syphilis	...	...	...	...	25
Tuberculosis	...	...	...	...	1
Wounds	...	...	...	...	193
Yaws	...	...	...	...	2

#### MALACCA DISPENSARY.

Two thousand nine hundred and eighty-four patients were treated as contrasted with 3,024 the preceding year.

The total receipts for the year was \$258.30 as against \$378.45 in 1913.

*Nationalities:—*

					<i>Males.</i>	<i>Females.</i>
Europeans	...	...	...	...	57	83
Eurasians	...	...	...	...	501	446
Chinese	...	...	...	...	425	160
Malays	...	...	...	...	815	104
Natives of India	...	...	...	...	311	72
Others	...	...	...	...	1	9
					2,110	874
					2,984	

*Chief diseases treated:—*

Pyrexia	...	...	...	...	390
Malarial Fever	...	...	...	...	208
Bronchitis	...	...	...	...	293
Ulcer	...	...	...	...	223
Beri-beri	...	...	...	...	52
Dyspepsia	...	...	...	...	93
Anæmia	...	...	...	...	80
Neuritis	...	...	...	...	64
Diarrhœa	...	...	...	...	102
Dysentery	...	...	...	...	16

#### Jasin.

*Out-Door Dispensary.*—Four hundred and seventy-seven cases (males 399, females 78) sought treatment, the total receipts amounting to \$38.15.

The chief diseases treated were:—

Malarial Fever	...	...	...	...	146
Ulcers	...	...	...	...	40
Constipation	...	...	...	...	25
Subacute Rheumatism	...	...	...	...	23
Ascaries Lumbricoides	...	...	...	...	21
Bronchitis	...	...	...	...	15
Beri-beri	...	...	...	...	11

Seven hundred and nine visits in all were paid by these patients. There were 292 Government Officers, 123 paying cases and 62 paupers.

#### Alor Gajah Dispensary.

During the year 345 out-patients (males 316, females 29) paid 414 visits.

The nationalities were as follows :—

Europeans	...	...	3					
Eurasians	...	..	24	(Males	14,	females	10).	
Chinese	...	...	63	(	„	62,	„	1).
Malays	...	...	202	(	„	186,	„	16).
Natives of India	...	...	51	(	„	49,	„	2).
Others	...	...	2	(	„	2,	„	0).

The chief diseases treated were :—

Malarial Fever	...	...	...	...	68
Beri-beri	...	...	...	...	4
Bronchitis	...	...	...	...	21
Rheumatism	...	...	...	...	22
Conjunctivitis	...	...	...	...	10
Worms	...	...	...	...	10
Constipation	...	...	...	...	22
Scabies	...	...	...	...	17
Ulcers	...	...	...	...	122
The total receipts were	...	...	...	...	\$18.30

#### APPENDIX F.

#### VACCINATION.

The following table gives the number of vaccinations performed during 1914 throughout the three Settlements with results :—

Settlement.	Number of Vaccinations performed.		Result.			
	By Govt.	By others.	Perfect.	Modified.	Failed.	Not seen.
Singapore ...	409	158	510	...	5	52
Penang ...	2,657	640	2,983	152	112	50
Dindings ...	185	...	69	27	14	75
Province Wellesley ...	4,059	...	2,880	289	812	78
Malacca ...	8,412	...	2,702	119	282	5,309
Labuan ...	149	...	133	...	...	16
Total ...	15,871	798	9,277	587	1,225	5,580

16,669

## APPENDIX G.

## QUARANTINE.

## SINGAPORE.

REPORT BY DR. G. E. BROOKE, *Chief Health Officer*.

## Staff.

Chief Health Officer ...	...	{ G. E. BROOKE, M.A. (Cantab.), L.R.C.P., (Edin.), D.P.H.
Assistant Port Health Officer	...	W. W. MARTIN, M.B., Ch. B. (Manch.), D.P.H.
Second Assistant Port Health Officer	...	(Vacant).
Resident Medical Officer, St. John's Island, Quarantine Station	...	{ H. BONAR DODDS, M.D., Ch. B. (Edin.)
Assistant Surgeon	...	W. D'CRUZ, L.M.S.

1. During the year in review, the conditions of the Port Health Department have been abnormal, owing to the occurrence of the great European War in August. Until that date, the general conditions were more or less normal, and the Quarantine Station was in constant use.

On the outbreak of war, the necessities of the Colonial situation demanded (a) complete cessation of immigration; (b) repatriation of large numbers of indigent Chinese and Tamils from the Colony and the Federated Malay States; and (c) the closure of the Quarantine Station, as such, in view of possible military requirements.

From the beginning of August the normal Quarantine Station work was replaced by the continual reception and discharge of numbers of coolies for repatriation.

Office work has maintained more or less normal dimensions throughout the year.

Shipping and port work has changed in character owing to the war conditions mentioned above. While no immigrants have been admitted since July, the actual number of ships arriving in quarantine has diminished but slightly, demanding even more than the usual care to prevent complicating the situation by the admission of infectious disease.

2. *Legal.*—The revision and consolidation of the various Ordinances dealing with the prevention of the introduction and spread of infectious disease, has for the past three years been intermittently occupying the attention of a committee consisting of the Attorney-General, the Principal Civil Medical Officer, the Municipal Health Officer, and myself. The final draft of the committee was printed towards the close of the year, and will shortly be submitted to Council.

3. On 1st January, 1914, Rule 30A made under the Merchant Shipping Ordinance 1910 came into force. By this rule, every foreign-going passenger steamer, carrying 100 or more persons, and making certain specified voyages, becomes obliged to carry a medical practitioner holding certain stated diplomas, degrees or licences.

4. During the year the schedules of recognized medical degrees and diplomas were amended both for passenger steamers, pilgrim steamers, and Chinese immigrant steamers. The amendments chiefly consisted of the inclusion of additional Japanese diplomas.

5. The Turkish Pilgrim Regulations having been largely altered since the last translation was made in 1890, I have recently translated a copy of the latest edition (1913) for the use of the Government.

6. Prosecutions were instituted in two instances for breach of the Quarantine Rules, and conviction was secured in both cases.

7. *Port.*—During the year 1,803 visits were paid to ships, and 121,163 crew and 281,420 passengers were inspected.



8. Of these ships, 27 were infected as follows :—

Port.			Cholera.	Small-pox.	Plague.	Total.
Calcutta	...	...	1	1	...	2
Hoihow	...	...	1	...	...	1
Hongkong	...	...	2	6	2	10
Jeddah	...	...	...	1	...	1
Negapatam	...	...	3	2	1	6
Penang	...	...	1	2	...	3
Perim	...	...	...	1	...	1
Saigon	...	...	1	...	...	1
Sourabaya	...	...	1	1	...	2
Total			10	14	3	27

9. Fifty-nine corpses on ships and sampans were duly inspected and sent to St. John's Island for post-mortem examination where necessary.

10. Out-going pilgrim ships to the number of sixteen were inspected prior to departure and Bills of Health issued in each case. The pilgrims inspected numbered 10,799, proving the year to be a large one. One Russian and several Japanese steamers broke the usual monopoly of pilgrim carriage enjoyed by the Blue Funnel Line.

11. Unusually virulent small-pox seems to have prevailed at the Hadjaz during the season in review, and every returning ship was infected with the disease. Owing to the closure of St. John's Island as a quarantine station, all agents were duly informed that their steamers must call at Penang whether consigned to Singapore or not. This was so done, and the quarantine of the pilgrims was carried out in that port, as also the disinfection of the vessels with the disinfecting launch recently completed for Penang (*S. L. Kite*). Almost at the moment when the first pilgrims were due to leave Jeddah, war broke out between Turkey and England. Fortunately this did not to any extent complicate the return of the pilgrims, but it produced an uncomfortable result for the Colony in that some 15,000 odd pilgrims were hustled away from Jeddah in a space of a little over 3 weeks instead of the usual 3 months. Congestion of the Quarantine Station at Pulau Jerejak naturally occurred, but by dint of strenuous efforts on the part of the staff, the situation was satisfactorily dealt with and the soundness of their work is shown by the absence of infection amongst the thousands of pilgrims discharged. I visited Penang in November to render assistance and was able to augment their staff with the Lay Superintendent and a dresser from St. John's Island. The shipping firms experienced a minimum of delay, in fact scarcely more than in normal times.

12. The Singapore Mosquito-fleet were inspected in eleven cases, and warnings issued have, I think, resulted in better sanitary conditions on board. If the new Quarantine Ordinance comes into force a considerably better control over these and other ships in port can be maintained. The inspections will then I hope be more frequent and extended.

13. Fifty-three water-boats were examined before the issue of a new licence by the Marine Department, and all were passed as clean at the first inspection. These periodical inspections have resulted in a great improvement on the conditions of a few years ago.

14. Hongkong was declared for plague on 13th February. The chief coolie-boats from Hongkong are the Jardine and Apcar Lines. The former chartered the *Hong Bee* and later used the *Chiang Hock Kian*, while the latter fitted up the *Bulimba*, as hulks on which to quarantine their passengers by non-infected steamers, in order to avoid the detention of their ships during the completion of the quarantine period for their passengers.

As pointed out last year, our Quarantine Station is commodious, but even so would not be able to deal with a quarter of the immigrants, were it used for "suspects" as well as "contacts." For many years past therefore, clean coolie-ships whose quarantine period from an infected port is not completed, have been detained at the Quarantine Anchorage for the requisite number of days. During the past year or two, some Agents have provided ships at the Quarantine Anchorage to act as hulks into which the coolie passengers can be transferred and so obviate delay to the original steamer. To obviate the expense of either of these methods the construction of a new station for suspects on Lazarus Island has been suggested (the island is adjacent to the Quarantine Station) where the expense of a Medical Officer, etc., could be shared amongst the various shipping firms. Such a station would be provided by Government and rent charged for occupation and general staff, when in use. Each agent would have their own barrack and would feed their own coolies. In case of infection occurring in any barrack, the occupants would of course be transferred to the proper Quarantine Station at St. John's Island. This scheme is now under consideration.

15. The two disinfecting launches *Hygeia* and *Crow* were in frequent use throughout the year. They are both fitted with Clayton S O<sub>2</sub> apparatus and also have large tanks for liquid disinfectant which can be pumped under pressure to any part of a steamer. These launches were used 22 times throughout the year for the disinfection of infected ships; and 54 times for the disinfection of other ships. They were also employed on 16 occasions for the transport of police or heavy stores to the Quarantine Station.

#### Office and Shore Work.

16. Permits for the import or export of corpses to or from the Colony, for burial, were issued in 31 cases representing revenue income of \$3 10.

17. The extra-municipal health work which has been done by this department for many years past, was handed over on the 11th June to the newly appointed Assistant Health Officer. The following work was however done by this department:—

One medical visit and five visits of sanitary inspection were paid to the Marine Department lines and village at Pulau Brani. Four visits were also paid to the same place in connection with a small outbreak of Cholera in July. Prompt burials, disinfection, and quarantine of the village were effectual in limiting the epidemic to a few cases only. Two visits of sanitary inspection were paid to the Rochore River, and one to the oil-station at Pulau Bukum.

In connection with cholera cases, two visits were paid to Tanjong Rhu; two to Tampenis Road; one to Serangoon Road; one to East Coast Road; one to Bukit Timah Road; and one to Pulau Obin.

18. Ordinary Bills of Health to the number of 1,802 were issued, representing a sum of over \$9,000 in revenue.

19. During the year 2,997 undertakings to report to the Municipal Health Authorities ashore, were signed by, and issued to cabin passengers arriving by clean or infected ships from infected ports, whose quarantine time was not completed.

In 39 of these cases bonds for their due appearance were signed by respectable guarantors in Singapore.

Having noticed during the past 13 years that no single case of infectious disease has ever occurred amongst cabin pass holders from infected or suspected ships during their quarantine surveillance, I have now ceased the issue of such passes, unless the ship is actually infected.

20. Pilgrims who have undergone quarantine in the Colony after their return from Jeddah, can on request obtain a certificate to that effect. These certificates are issued to a single pilgrim or may include other immediate members of his family who may be travelling with him. The certificate states the measures taken and the length of quarantine undergone, and is attested by a thumbprint. The cost is 25 cents.



The number of such certificates issued during January and February to pilgrims returning from the 1913 pilgrimage was 416. During December, 635 certificates were issued to those returning from the 1914 pilgrimage.

21. During the year, reconstruction of the office was completed, and much needed electric lights and fans were installed.

#### Quarantine Station.

22. The total number of quarantined passengers admitted up to the end of July, when the Station was closed for quarantine purposes, was 18,193; the greatest number admitted in any one day being 1,765 (23rd April, 1914), and the maximum total in residence on any day being 2,376 (27th April, 1914). On the first of January for the only time, there were no contacts at all on the Station.

23. The total sick treated in hospital during the above 7 months, including the patients remaining on 1st January, amounted to 187. The average daily number of sick being 0.89; and the maximum number in hospital on any day being 26 (27th January, 1914). This is very much below the averages of former years.

24. The deaths amongst cases under treatment amounted to 43 giving a death-rate of 22.99 per cent. Nine other deaths amongst contacts occurred, making the total deaths up to 52.

25. Of contacts (*i. e.*, people from "infected" ships), three shiploads, out of thirteen, subsequently developed further cases after removal to the Quarantine Station.

26. Of suspects (*i. e.*, people from clean ships who have to finish their quarantine from an infected port,) none, out of 120 loads, subsequently developed infectious disease on the station. This class of ship is usually detained at the Quarantine Anchorage (*vide* para. 14) but the passengers are removed to the Quarantine Station if they do not exceed 250 in number, as it has been found that small batches such as that can be admitted without unduly curtailing the space which should always be at disposal for quarantining contacts from infected ships.

27. For the convenience of the Municipality who have not got the requisite facilities for the quarantining of contacts, 456 cholera contacts were admitted, disinfected, detained and discharged. Of these only one person developed the disease during the quarantine surveillance.

28. Exclusive of the Asylum inmates mentioned in the next para. 70 Government contacts were detained for observation for cholera, none developed the disease.

Of this total, one batch of 25 consisted of European patients from Tan Tock Seng's Hospital where cholera had broken out in the wards. Another batch of 25 were Chinese coolies employed by the Straits Trading Company and resident in the village at Pulau Brani where cholera had occurred.

29. Owing to an outbreak of cholera in the Singapore Lunatic Asylum, 277 inmates and 29 attendants were removed to St. John's Island on 27th April for observation. Cases occurred amongst them daily up to and including the 4th of May. One more case occurred on 8th May, but nothing further, and they were discharged on 21st May to Singapore, leaving 4 in hospital who followed them on the 27th of that month. In all, they had 21 cases of cholera with 17 deaths and also 3 deaths from other causes, during a quarantine of 25 days. This gives an incidence rate of 7.58 per cent and a case mortality of 80.95 per cent as compared with an incidence rate of 6.8 per cent and a case mortality of 87.5 per cent when the lunatics were last at St. John's Island in 1911.

30. Up to the end of July, 7,354 vaccinations had been performed by the staff. No inoculations with KOLLE'S or with HAFFKINE'S vaccine were carried out. A small supply of the former, and a large supply of the latter, are always kept in stock, and stored at the Cold Storage Dépôt by the courtesy of the Manager.

31. During the time St. John's Island was used as a quarantine station, very little infectious disease was admitted. Seven cases of Chicken-pox, twelve of Measles, four of Dysentery and one of Diphtheria comprised the chief lesser diseases. Eleven Small-pox cases only were admitted, of which one died. There were no plague admissions.

32. Cholera accounted for 28 admissions and 21 deaths, giving a mortality of 75 per cent.



Intravenous infusion of hypertonic saline solution was given in 10 instances, and the mortality in these cases was 60 per cent.

The mortality in the cases which were not infused was 83·33 per cent.

33. The distilling plant worked well, but Singapore water was chiefly used during the latter half of the year owing to the high price of firewood. 265,950 gallons of water were distilled and pumped up into the service reservoir, and 833,504 gallons of Singapore water were also pumped up, by the end of July. During the non-quarantine period of 5 months from August 1st, we used 627,968 gallons of Singapore water.

34.

#### **Public Works.**

- (a) New quarters for baggage-coolies were completed during the year, and the following services were partially completed :—
- (b) Extension of police barracks,
- (c) New Lock-up,
- (d) New Nurses' Quarters,
- (e) Two new camp wards,
- (f) Pier Pontoon.

A permanent cover for the service reservoir had been sanctioned, but it was deemed advisable to postpone until the following year, in order not to dirty the water during a full occupation of the island.

35.

#### **Meteorology.**

The total rainfall for the year at the Quarantine Station was 58·84 inches; the greatest amount in any day being 4·48 inches, and the total number of rainy days 153.

36. Attached is a resume of some past work tabulated.

PORT HEALTH DEPARTMENT.

Condensed Résumé of 12 years' work.

Date.	SHIPPING.			QUARANTINE STATION.				
	Visits to vessels.	Crew & Passengers examined.	Bills of Health issued.	Passengers landed at Quar. Station.	Plague cases treated.	Cholera cases treated.	Small-pox cases treated.	Vaccinations performed.
1903	806	321,365	1,000	21,253	136	271	19	140
1904	712	279,297	1,036	17,852	9	Nil.	46	4,623
1905	1,279	323,431	1,220	12,109	5	2	62	2,586
1906	1,625	493,021	1,674	30,076	2	319	37	6,963
1907	1,226	377,326	1,318	25,408	Nil.	28	37	3,157
1908	1,506	303,484	1,344	29,356	3	36	52	9,016
1909	1,251	291,625	1,299	15,072	Nil.	Nil.	17	1,084
1910	1,920	467,868	1,200	35,062	3	182	55	12,129
1911	2,100	538,291	1,800	53,961	1	352	79	1,972
1912	1,927	539,677	2,145	56,726	4	187	139	14,947
1913	1,818	506,923	1,582	56,838	2	505	54	24,276
1914	1,803	402,583	1,802	18,193	Nil.	28	11	7,354
Total	17,973	4,844,891	17,420	371,906	175	1,910	608	88,247

## PENANG.

REPORT BY DR. F. R. SAYERS, B.A., M.D., D.P.H., *Port Health Officer.*

1. During the year 1,040 vessels were boarded and 69,864 crew units and 145,203 coolies, passengers, and pilgrims were inspected.

Up to the end of July, 791 vessels had been inspected. Owing to the war the number of vessels arriving in Penang after July diminished greatly.

2. Under the Merchant Shipping Ordinance 8 vessels having on board 4,652 pilgrims were inspected and cleared for Jeddah. Eighteen ships carrying 17,808 pilgrims returning from Jeddah were inspected of which 12 were "infected," all with small-pox.

3. "Indian Immigrant Ships" to the number of 34 were inspected. The smallness of this number is due to the prohibition of immigration during the last five months of the year.

Of these ships 7 were "infected."

4. Of the vessels inspected, 26 were "infected," the cause of infection being small-pox 22 and cholera 4.

These vessels arrived from Jeddah (14), Negapatam (1), Singapore (3), and Calcutta (2).

The new disinfecting launch *Kite* was taken over on March 3rd, and ships were disinfected by her to the end of the year. The fees for her services amounted to \$2,973.75.

5. Permits to bury ashore from steamers and tongkangs were issued in twelve cases.

6. Statement *A* shows number of vessels, crew units, and passengers (including coolies and pilgrims) inspected in each month of the year.

Statement *B* shows the number of vessels arriving each month from the various ports which were subject to "Quarantine Restrictions."

STATEMENT *A*.

MONTH.			Total Number of Ships.	Total Number of Crews.	Total Number of Passengers.	Total Ships Infected.
January	...	...	119	5,680	14,363	2
February	...	...	147	5,961	13,021	4
March	...	...	170	7,021	12,180	2
April	...	...	137	9,476	13,409	1
May	...	...	75	8,100	23,095	2
June	...	...	76	9,635	18,969	2
July	...	...	63	6,376	21,532	2
August	...	...	49	4,112	6,130	Nil.
September	...	...	53	3,734	4,182	Nil.
October	...	...	57	3,733	1,905	Nil.
November	...	...	42	2,246	7,910	5
December	...	...	52	3,790	8,507	6
Total			1,040	69,864	145,203	26



## STATEMENT B.

PORTS.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
Calcutta ...	13	9	7	11	11	13	9	4	3	...	...	...	80
Bombay ...	...	1	5	2	4	2	5	2	4	2	1	...	28
Colombo ...	...	...	...	9	...	1	1	...	...	...	8	6	25
Madras and Negapatam	5	4	4	5	4	6	7	2	1	3	1	2	44
Rangoon ...	...	9	13	8	10	9	9	5	2	11	12	7	95
Jeddah ...	5	2	...	...	...	...	...	...	...	...	5	6	18
Amoy and Swatow	2	2	3	4	4	2	2	2	2	...	...	1	24
Hongkong	8	4	9	12	7	7	9	4	3	3	5	3	74
Bangkok ...	1	...	...	...	...	...	...	...	...	...	...	...	1
Singapore ...	1	4	1	...	26	28	15	1	1	...	...	1	78
Alor Star ...	68	92	112	70	4	...	...	1	...	...	...	...	347
Yen ...	14	14	13	13	2	...	...	...	...	...	...	...	56
Samarang ...	1	...	1	...	...	...	...	...	1	...	...	...	3
Batavia ...	...	...	...	...	...	...	...	...	...	5	5	6	16
Sourabaya ...	...	1	1	3	3	2	2	1	6	...	...	1	20
Lumut ...	...	2	...	...	...	...	...	...	...	...	...	...	2
Sallae ...	...	2	...	...	...	...	...	...	...	...	...	...	2
Kuala Muda	...	1	...	...	...	...	...	...	...	...	...	...	1
Moulmein ...	...	...	1	...	...	...	...	...	...	...	...	...	1
Setul ...	...	...	...	...	...	4	...	...	...	...	...	...	4
Teluk Anson	...	...	...	...	...	...	1	21	17	3	...	...	42
Tongkah ...	...	...	...	...	...	...	...	6	8	12	...	4	30
Trang ...	...	...	...	...	...	...	...	...	4	14	...	12	30

## PULAU JEREJAK.

## Quarantine Station.

REPORT BY DR. F. R. SAYERS, *Port Health Officer*.

1. The Station proved equal to the demands made on it.
2. The total number detained for observation throughout the year was 48,399 persons landed from 138 vessels.  
Of this number 18,041 were "Indian Immigrant Coolies," 13,278 pilgrims and 15,142 ordinary deck passengers.
3. While awaiting repatriation a total of 1,938 Chinese were quartered at the Station during the months of August, September, October and November.
4. As a consequence of the war the Quarantine Station, Singapore, during the latter part of the year was not available for quarantine purposes and nearly all the returning pilgrims arrived from Jeddah inside a period of three weeks instead of the usual three months. Under these circumstances and as most of the pilgrim ships were "infected" with small-pox strenuous efforts on the part of the staff were required to prevent undue overcrowding of the island and delay to ships. With assistance from the Singapore staff the situation was successfully dealt with.

5. The following diseases were treated:—

				<i>Cases.</i>	<i>Deaths.</i>
				—	—
Small-pox	...	...	...	171	30
Cholera	...	...	...	9	6
Measles	...	...	...	29	0
Chicken-pox	...	...	...	13	0
Other diseases	...	...	...	1,494	95
			Total ...	1,716	131
Percentage of deaths to cases				...	7.63

*Small-pox.*—The ships bearing these cases arrived from Jeddah (14), Negapatam (7), Calcutta (2).

*Vaccination.*—Statement *E* shows statistics for 1914.

The percentage of success is maintained.

It is interesting to note that 70 per cent of success was obtained in "those with marks of previous small-pox" and 75 per cent of "those bearing six marks of previous vaccination."

*Plague.*—There were no cases of plague at the Station.

*Cholera.*—Cholera contacts were quarantined from two ships from Negapatam and one from Singapore.

Salines and permanganates were administered in all cases.

6. The Jewell Filter was cleaned out and recharged in August.

Routine analysis of the water shows a continued excellence.

7. The health of the staff was unsatisfactory. Of a total of 51, 48 were treated for Malaria of which 20 had not been previously infected. Many had several attacks.

8. The station and surroundings, searched many times unsuccessfully on previous occasions for larvæ, were again thoroughly examined by Dr. DUNCAN, who found *A. Maculatus* in several pools at the eastern end of the Camp. These pools are now being dealt with temporarily and a permanent scheme for improvement is under consideration.

9. Statement *A* shows daily average at the station.

„ *B* „ work done at the station.

„ *C* „ condensed report of 14 years' work.

„ *D* „ Staff of the station.

„ *E* „ Rainfall.

„ *F* „ Vaccination.

TABLE A.

DAILY AVERAGE AT THE NEW QUARANTINE STATION, PULAU JEREJAK, IN 1914.

January	...	...	...	...	413
February	...	...	...	...	813
March	...	...	...	...	1,420
April	...	...	...	...	668
May	...	...	...	...	882
June	...	...	...	...	1,368
July	...	...	...	...	1,204
August	...	...	...	...	841
September	...	...	...	...	253
October	...	...	...	...	99
November	...	...	...	...	1,163
December	...	...	...	...	2,210

TABLE B.

SHOWS THE WORK DONE AT THE NEW QUARANTINE STATION, PULAU JEREJAK, IN EACH MONTH OF THE YEAR.

—	Jan.	Feb.	Mar.	Apl.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Vessels ...	13	15	14	15	17	21	20	8	1	2	6	6
Passengers and coolies admitted ...	2,726	3,675	4,411	3,872	4,273	5,558	6,609	1,755	74	269	6,144	7,095
Daily average ...	413	813	1,420	668	882	1,368	1,204	841	253	99	1,163	2,210
Small-pox admitted ...	...	9	1	1	...	...	2	...	...	...	75	45
Small-pox fresh cases ...	...	...	...	...	...	1	...	...	...	...	2	35
Cholera admitted ...	...	...	...	...	...	1	1	...	...	...	...	...
Cholera fresh cases ...	3	..	1	...	1	1	1	...	...	...	...	...
Plague admitted ...	...	...	...	...	...	...	...	...	...	...	...	...
Plague fresh cases ...	...	...	...	...	...	...	...	...	...	...	...	...
Chicken-pox ...	1	3	2	5	...	...	1	...	...	...	...	1
Measles ...	...	17	1	2	...	...	...	...	...	...	...	9
Deaths, Small-pox ...	...	...	...	...	...	...	...	...	...	...	6	24
„ Cholera ...	2	...	1	...	...	2	1	...	...	...	...	...
„ Plague ...	...	...	...	...	...	...	...	...	...	...	...	...
Vaccinations ...	1,109	2,459	2,106	2,086	3,135	3,264	4,627	893	...	...	4,747	8,180
Total Deaths from enumerated above	2	...	1	...	...	2	1	...	...	...	6	24

TABLE C.

*Condensed Report of Fourteen Years' Work—Harbour and Quarantine.*

—	Vessels.	Units of crew and passengers inspected.	Passengers landed on Quarantine Station.	Small-pox treated.	Cholera treated.	Plague treated.	Daily average, Quarantine Station.	Vaccinations.
1901	...	1,309	200,186	2,188	3	3	1	...
1902	...	1,000	180,632	5,755	5	42	...	...
1903	...	957	180,251	1,688	9	22	1	...
1904	...	748	184,691	2,217	16	5	2	...
1905	...	869	214,136	10,406	10	1	...	171
1906	...	675	204,988	23,288	16	8	2	461
1907	...	633	219,839	17,650	4	24	1	116
1908	...	1,205	176,119	21,175	51	9	2	366
1909	...	503	161,971	23,058	25	2	1	359
1910	...	526	217,967	71,876	62	33	2	1,584
1911	...	1,144	277,151	134,957	109	387	1	3,740
1912	...	634	287,373	55,493	75	4	4	1,111
1913	...	818	272,473	53,937	11	12	1	120
1914	...	1,040	215,067	48,399	171	9	...	116



TABLE D.

## STAFF.

*New Quarantine Station.*

RANK.	Hospital and Dispensary, Penang. Personal Emoluments.	Medical, Penang, Quarantine Sta- tion and Camps. Personal Emoluments.	Hospital Board, Penang. Annual Recurrent up- keep of the Quarantine Station.	Federated Malay States Agency Account, Miscel- laneous Services Federal Secre- tarial staff for the new Quar- antine Camp, Pulau Jerejak.	Total.
Dressers ...	2	...	...	1	3
Inspectress ...	...	1	...	...	1
Ayah ...	...	1	...	...	1
Camp Masters ...	...	2	2	...	4
Attendants ...	...	1	...	4	5
Gardeners ...	...	9	...	6	15
Toties ...	...	...	14	...	14
Engine Drivers ...	...	3	1	...	4
Cleaner ...	...	...	1	...	1
Disinfectors At- tendants ...	...	2	...	...	2

TABLE E.

## RAINFALL—NEW QUARANTINE STATION, PULAU JEREJAK.

<i>Months.</i>	<i>Amount.</i>	<i>No. of rainy days.</i>
January ...	2.59	2
February ...	2.70	2
March ...	.58	3
April ...	7.58	8
May ...	6.67	10
June ...	6.01	5
July ...	1.34	3
August ...	4.44	5
September ...	11.78	14
October ...	17.08	18
November ...	9.98	22
December ...	7.39	15
Total ...	78.14	107

Greatest rainfall in one day—3.90 on 21st October, 1914.

TABLE F.

## VACCINATION REPORT—QUARANTINE STATION.

—	Total number vaccinated.	Successful.	Percentage of Success.
Total Number done ...	32,606	25,741	78.9
Those bearing less than six marks ...	12,785	10,853	84.8
Those bearing six marks ...	16,345	12,261	75.0
Those with marks of previous Small-pox ...	2,740	1,921	70.1
Infants un-vaccinated ...	771	768	99.6

## APPENDIX H.

## GOVERNMENT ANALYST'S DEPARTMENT, SINGAPORE.

REPORT BY FRANKLAND DENT, M. SC., PH. D., F. I. C., *Government Analyst, S. S.*

The following table shows the revenue and expenditure for the year 1914, and, for comparison, the revenue collected during the preceding year:—

Revenue.	1913.	1914.	Expenditure, 1914.	
<i>Fees of Office.</i>	\$ c.	\$ c.		\$ c.
Petroleum Inspection ...	4,355 00	4,275 00	Personal Emoluments	12,311 16
Miscellaneous ...	8,400 50	8,664 50	Stores from England	517 21
Total ...	12,755 50	12,939 50	Miscellaneous ...	411 54
			Transport, Travelling & Personal Allowances	243 15
By sales of Pyridine ...	722 00	1,072 00	Total ...	13,483 06

It will be seen that there is a small increase in the revenue for 1914. The expenditure is slightly less than it was in the year 1913 (\$13,656.24).

## Petroleum.

(a) *Kerosine*.—The following table gives a comparison between the quantities tested on importation into the Island of Singapore during the years 1913 and 1914:—

Description of Oil.		1913.			1914.		
		Number of Consignments.	Tins.	Tons.	Number of Consignments.	Tins.	Tons.
<i>Case Oil.</i>							
American Oil.	Devoe's ...	6	108,500	...	5	58,600	...
	S. Arrow ...	6	140,000	...	5	123,400	...
Langkat Oil.	Crown ...	53	236,272	...	62	242,381	...
	Dragon ...	42	202,337	...	42	162,781	...
	Cross ...	21	24,100	...	14	19,260	...
	Rising Sun...	14	14,500	...	11	11,110	...
	Lamp Glass..	9	9,500	...	8	6,900	...
	Fish ...	19	15,982	...	11	11,648	...
	Sumatra ...	1	1,000	...	4	5,170	...
Borneo Oil	Coast Light..	2	200	...	...	...	...
	...	8	1,250	...	15	4,700	...
<i>Bulk Oil.</i>							
Pulau Samboe	...	8	...	317'6	3	...	118'132
Pulau Bukom	...	17	...	674'512	18	...	707'802
Total	...	206	753,641	992'112	198	645,950	825'934

Two consignments of kerosine, not previously declared to be dangerous, were found to flash (at 70° Fahr.) below the prescribed standard temperature.

Fifty-six consignments were tested for flash-point and certificates issued for kerosine consigned to Sarawak, Colombo, Hongkong and Suez in order to avoid delay to shipping at these and intermediate ports.

Seven samples were tested for the purpose of correcting instruments in other localities against the standard one kept in this Laboratory.

(b) *Benzine*.—The following table gives a comparison between the quantities imported into the Island of Singapore during the years 1913 and 1914:—

Nature of Receptacles.	1913 (159 consignments).		1914 (185 consignments).	
	Number.	Gallons.	Number.	Gallons.
2-gallon cans ...	76,720	153,440	106,413	212,826
4-gallon drums ...	45,571	182,284	46,593	186,372
Total ...	122,291	335,724	153,006	399,198

There is thus shown an increase of 53,474 gallons over the previous year, chiefly imported in the increasingly popular 2-gallon cans.

The receptacles were in all cases examined to see whether they fulfilled the conditions laid down in the Rules and By-laws under the Petroleum Ordinance.

One sample of benzine was sent for the determination of Specific Gravity and one Petroleum-Hydrometer for standardization.

(c) *Mineral Turpene*.—One hundred tins were imported into Singapore and tested for flash-point.

(d) *Liquid Fuel*.—Twenty-one consignments of 21,387·560 tons were imported into Pulau Bukom and tested.

Four samples were examined as to whether they were in accordance with the Admiralty specification as regards flash-point and the amount of water present in the oil.

One sample was received for Specific Gravity and Viscosity tests.

(e) Testing vessels that had carried petroleum for dangerous vapour.

Forty-two vessels as against 29 in 1913 and 17 in 1912 were tested for inflammable vapour by means of Redwood's Standard Instrument, either before being allowed to enter port limits under Rule 23 of the Petroleum Ordinance or to enter dry dock under By-law 77 of the Straits Settlements Ports Ordinance 1912.

#### Explosives.

Eight consignments of explosives were tested on importation into Singapore in accordance with the Rules under the Explosives Ordinance 1899. All passed the prescribed tests.

The following table gives the details of these, and, for the purpose of comparison, those imported and tested during the two preceding years, from which it will be seen that a great decrease in the amount imported took place in 1914:—

Year.	Number of consignments.	Number of packages of 50 lbs. each.			
		Dynamite.	Gelignite.	Blasting Gelatine.	Total.
1912 ...	13	870	3,670	740	5,280
1913 ...	12	1,705	3,430	1,000	6,135
1914 ...	8	875	2,152	600	3,627



In addition to the above 132 cases detonators, 100 kegs blasting powder and 200 cases Monobel powder were imported.

#### Minerals, etc.

Ten samples of metalliferous minerals were assayed during the year as against 55 samples in 1913 and 141 in 1912. They included 8 samples of Wolfram ore, 1 of Scheelite and 1 of Tin-Wolfram ore.

In addition to the above, one sample of coal was forwarded for complete analysis.

#### Counterfeit Coins.

Four sets of exhibits in connection with counterfeiting Straits coins and 3 sets in connection with being in possession of the same were received from the Police for examination.

They comprised one dollar, six 50-cent pieces, twenty-seven 20-cent pieces and fifteen 5-cent pieces together with the usual large number of counterfeiting implements such as moulds, tins of plaster of Paris, stoves, files, boxes of Britannia metal, spoons, etc., etc.

Seven  $\frac{1}{2}$  cent pieces plated with silver were received from Malacca.

A case of counterfeiting Siamese 10 satang (nickel) coins occurred recently. The exhibits consisted of a complete outfit for making them in plaster of Paris moulds from an alloy of tin and lead.

#### Liquors.

One thousand three hundred and thirty-nine samples, of which 57 came from Malacca, were sent by the Government Monopolies Department during the 4 months, April-July for the determination of their spirit strength for duty purposes.

Fourteen samples were received in a case of attempting to evade the payment of duty.

Also one sample of spurious brandy and another of spurious whisky and one sample of China rice wine were sent in.

(a) *Methylated Spirits*.—Six hundred and forty-one drums and  $571\frac{1}{2}$  cases equal to 83,350 gallons of arrack were methylated for industrial purposes as against 68,707 gallons in 1913 and 48,201 gallons in 1912.

#### Opium and Deleterious Drugs.

(a) *Opium*.—Fifty-seven samples of Persian opium were sent in by private firms and eight samples by the Monopolies Department for assay.

(b) *Chandu*.—Sixteen samples were received from the Monopolies Department for assay and 20 sets of exhibits in connection with prosecutions for breaches of the Chandu Revenue Ordinance were sent in by the Head of the Preventive Service.

Seven samples suspected to be not of Government manufacture were sent in by the same Department.

(c) *Chandu Dross*.—Eighty-seven sets of exhibits in connection with Police Court cases were sent in for examination.

One sample was sent in for assay.

(d) *Anti-Opium Pills*.—Six sets of exhibits were received from the Head of the Preventive Service.

#### Toxicology.

Twenty-two specimens of stomachs, vomits, etc., of which 4 came from Malacca were sent in for examination. Poison (0.104 grain white arsenic) was only detected in one case.

Five sets of exhibits were received in cases of alleged attempted poisoning. They included a native cake composed of rice mixed with chopped Strychnos Nux-vomica beans and containing 2.73 grains of the mixed alkaloids. Various exhibits from Malacca contained arsenic equal to 0.33 grain of white arsenic.

In a case of throwing a corrosive acid, the acid was found to be strong acetic acid. Carbolic acid was found on a sarong in a similar case.

#### Urine.

Nineteen specimens were received for examination.

**Water.**

Sixteen samples were sent in, of which 10 came from Malacca, 1 each from Johore and the Federated Malay States and 4 from Singapore.

**Milk.**

Nine samples were forwarded for analysis and report. A lactometer from Labuan was sent in for correction.

**Miscellaneous.**

Other samples, not included in the above, which were sent in for analysis and report included:—Thirteen fluids for the estimation of Albumen and 2 Test-meals from the Medical Department, 15 samples of burnt rice husk from the Botanic Gardens, 1 each of oil cake, oil seeds, Bhang, lithia water, sewage effluent, a clasp knife in a murder case from Sungai Siput, a cartridge of old dynamite, a stone from a kidney, etc.

**GOVERNMENT ANALYTICAL DEPARTMENT, PENANG.**

REPORT BY J. C. COWAP, B. Sc., F. I. C., *Deputy Analyst, Penang.*

The following table shows the details of revenue and expenditure for the Department in 1914. The revenue for the year 1913 is also given for comparison:—

Revenue.	1913.	1914.	Expenditure 1914.
	\$ c.	\$ c.	\$ c.
Petroleum inspection fees	2,650 00	3,375 00	Personal Emoluments 5,365 64
Miscellaneous ...	1,004 00	563 50	Stores ... 151 06
Certificate for export of petroleum fees ...	423 00	302 00	Miscellaneous ... 148 81
			Transport, Travelling & Personal Allowances ... 7 43
Total ...	4,077 00	4,240 50	Total ... 5,672 94

The number of reports issued on general analytical work was 231. On petroleum 80 reports were made.

**Petroleum.**

(a) *Kerosine*.—Forty-eight consignments were tested as to the flash-point. All samples were found to flash above the standard temperature (73°F.).

Particulars of kerosine imported and tested are given below:—

Description of oil.	Number of Consignments.	Tins.	Tons.
<i>Case oil.</i>			
American oil. { Sylvan Arrow ...	6	{ 276,600	...
{ Devoes ...			
Langkat oil. { Dragon ...	8	99,200	...
{ Lamp Glass ...	4	2,800	...
{ Fish ...	3	3,897	...
<i>Bulk oil.</i>			
Pulau Soe-Soe ...	20	...	7,983'39
Balik Papan ...	6	...	2,093'49
Pulau Samboe ...	1	...	352'00
Total ...	48	483,897	10,428'88



(b) *Dangerous Petroleum*.—Twenty-nine consignments, representing 262,368 gallons were imported during the year. In the case of dangerous petroleum, no test for flash-point is made but the containing receptacles are examined in accordance with the rules under the Petroleum Ordinance.

(c) *Petroleum Residue*.—Three consignments, representing 16,091·85 tons, were imported and examined. All samples were found to flash over 150°F.

### Explosives.

Four shipments of explosives were tested on importation and were found to pass the tests prescribed by the Explosives Ordinance.

The amount of explosives so dealt with was:—

				<i>Cases.</i>	<i>Pounds.</i>
				—	—
Gelignite	...	...	...	1,600	80,000
Polarite	...	...	...	10	500

### Counterfeit Coins.

Exhibits in six cases of counterfeit coining were sent in by the Police for examination. Several persons suspected of manufacturing coins were examined and some were found to have their hands stained with reagents which are much used in this art.

Some complete outfits for the making of coins were reported upon. In one case there was a remarkable collection of very perfect plaster of Paris moulds.

The number of coins examined was 478. Of these 295 were 20-cent pieces, 182 were 10-cent pieces and the remaining one was a 50-cent piece. All were made of Britannia metal.

No counterfeit silver coins were met with.

### Deleterious Drugs.

Reports were made on only two deleterious drug cases. In each case 1 oz. of cocain hydrochloride had been seized by the Preventive Service.

### Other Drugs.

A number of samples of pills, etc., were examined: many were found to contain opium or morphine, but the number of medicines containing deleterious drugs sold by shop-keepers appears to be diminishing.

### Opium and Chandu.

Analyses were made of 104 samples of chandu and opium. Most of these were undertaken in order to determine whether the chandu was produced by the Government or not, but in some cases the purity of the chandu or opium was in question.

### Spirits.

One thousand one hundred and fifty-three samples of spirit were received from the Monopolies Department for a determination of their spirit strength for the purpose of levying duty.

### Toxicology.

Four cases of suspected poisoning were investigated.

In only one instance was poison (opium) found.

### Blood Stains.

Twenty-two sets of exhibits, 105 articles in all, were received from the Police to be examined for blood stains. Most of them were found to show the presence of blood.

### Water.

Thirty-four samples of water were analysed with a view to determining their availability for sources of drinking water. Six of these were condemned.

Two samples of boiler water were shown to contain considerable quantities of Sulphuretted Hydrogen and two to be acid. All four were naturally useless for steam raising purposes.



The mineral analysis of a water from a hot spring in Pulau Langkawi showed that the chief constituent was Sodium Chloride.

### Miscellaneous.

Reports were issued on a number of samples not falling under any of the foregoing headings. These samples included fuel, lighthouse oil, tea, urine, milk, tin, manganese bronze, exhibits in various arson cases, datura leaves, quicklime, galena, burnt padi husk, cement, pepper, wine, fish manure and others.

Some work was done on toddy but had to be abandoned owing to pressure of routine work.

### Office.

At the end of the year the new laboratory in Western Road was completed. It has many advantages over the old office in the Government Buildings; freedom from dust and a reliable water supply being not the least important.

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## APPENDIX I.

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### REPORT ON THE KING EDWARD VII MEDICAL SCHOOL, SINGAPORE, FOR 1914.

(BY DR. R. D. KEITH, *Principal*.)

Dean (ex-officio) ... Hon. W. GILMORE ELLIS, M.D. (P.C.M.O.)

#### Permanent Staff.

Principal ... R. D. KEITH, M.A., M.D.  
 Assistant Principal ... T. D. KENNEDY, M.A., M.B., B. Ch.  
 King EDWARD VII Professor J. A. CAMPBELL, M.D., D. Sc.  
 Tutor ... A. J. THUMBOO, L.M.S. (Singapore.)

#### Lecturers.

Chemistry and Physics ... F. DENT, F.I.C., Ph. D.  
 Biology ... E. A. ELDER, M.A., B.Sc., F.R.C.S. (Edin.)  
 Surgical Anatomy, Anatomy  
 and Osteology ... T. D. KENNEDY, M.B., Ch.B.  
 Physiology Professor ... J. ARGYLL CAMPBELL, M.D., D. Sc.  
 Materia Medica ... T. MURRAY ROBERTSON, M.D.  
 Pharmacy ... G. W. CRAWFORD, M.P.S.  
 Forensic Medicine ... { H. J. GIBBS, M.R.C.S.  
 ... { W. GILMORE ELLIS, M.D. (*Acting*).  
 Hygiene ... G. E. BROOKE, M.A., D.P.H. (Cantab.)  
 Pathology ... G. A. FINLAYSON, M.A., M.B., M.R.C.P. (London).  
 Medicine ... { D. J. GALLOWAY, M.D., F.R.C.P. (Edin.)  
 ... { J. HARRISON, M.D. (*Acting*).  
 Clinical Medicine ... R. D. KEITH, M.D.  
 Surgery ... E. D. WHITTLE, M.R.C.S. (England).  
 ... { E. D. WHITTLE, M.R.C.S. (England).  
 Clinical Surgery... { C. J. SMITH, F.R.C.S. (Edinburgh).  
 ... { J. R. MCVAIL, M.B., Ch. B. (Glasgow).  
 Midwifery ... { R. JOHNSON, M.D. (T.C.D.)  
 ... { F. B. CROUCHER, M.B. (Aberdeen).  
 Practical Midwifery ... Staff of Maternity Hospitals.  
 Ophthalmology ... F. W. MORE, M.D. (Edin.)

1. *Numbers, etc.*—Sixteen students joined the full course, which now numbers 82. Several names of students who have not qualified after six years or over of study were struck off the roll. Three regular students obtained the diploma of licentiate, viz., GURUMUKH SINGH and S. KANDYAH who joined the Government Service of the Federated Malay States and C. RATNASINGHAM who joined that of the Straits Government. A. M. JENKINS after a year of extra study was granted a licentiate's diploma under "Regulations for the Diploma" (Section III, page 15 of the School Syllabus 1914-15). Forty-nine regular students have gained the diploma since May, 1910, when the first licentiates passed out and eight students of other colleges, mainly Madras, have passed the final examination of the King EDWARD VII Medical School and have been granted the diploma. The reports on our licentiates continue to be good.

2. *Discipline.*—On the whole the discipline and general tone have been satisfactory. The full-course students have improved in this respect and yearly their bearing and tone become better.

*The Recreation Club and the Volunteer Company.*—The former has been active throughout the year and has been well conducted. A recreation ground has been obtained through Dr. ELLIS, P.C.M.O., and Dr. CROUCHER, the Chief Medical Officer, General Hospital, and is now practically ready for use as a football and cricket ground.

The Medical Company has been over strength. At the beginning of the war it was mobilized and detachments were stationed at various positions near Singapore. The work of the various detachments was very favourably commented on by His Excellency the General Officer Commanding. As a result of mobilization the August examinations were postponed till October. The work has not suffered, however, and the men have greatly benefited by their training. A Voluntary Aid Detachment was also formed and trained as a bearer section. The training was purely voluntary and was done in the students' own time. The detachment which was composed mainly of Government students and Government student hospital assistants worked very well not one man being absent once during the whole of the period of training. The work of the detachment was favourably noticed by the General Officer Commanding.

I have been in command of the Company since July, 1914, the other officers being Drs. P. S. HUNTER and A. F. LEGGE.

3. Various communications have passed between the Council of the School and the General Medical Council with regard to getting the School recognized. Steps have been taken to conform with the requirements of the General Medical Council. Accordingly the standard of the Preliminary examination has been still further raised and Latin and a modern or native language are now necessary, the general standard being that of the Senior Cambridge Local Examinations. The fact of the Preliminary test having been raised from the local standard VII in 1905 to its present level indicates that local education has improved generally and that active measures have been taken to bring our Preliminary up to a standard conforming to the requirements of the General Medical Council. It is to be hoped that in the near future our efforts to obtain recognition will meet with success. Dr. GALLOWAY'S course in Medicine is now recognized by the University of Edinburgh as one which exempts from a corresponding course there and it is hoped that further exemptions of a similar nature will be obtained soon.

4. A sum of \$5,000 was sanctioned for inclusion in the estimates for 1915 for an extension of the Physiology and Anatomy Departments, but unfortunately circumstances did not allow of this much-needed work being carried out. The teaching of Surgery and Clinical Surgery is now greatly improved by establishment of a highly efficient permanent surgical staff. Practical instruction in midwifery will have to be improved and as many opportunities as possible given to students of conducting cases. There is reason to hope that in 1915 things will be much improved in this respect and that our course will be in all subjects equal to that of British Medical Schools.

5. Students have been on duty at the various hospitals and dispensaries and no complaints have been received regarding their work or behaviour. I have found them very helpful in my wards at Tan Tock Seng's Hospital where they act in rotation as clinical clerks.

6. During the year Professor ARGYLL CAMPBELL has taken his degree of D. Sc., (Edin.) and has done a considerable amount of research work which it is to be hoped will be published soon. In this work I gave him some assistance and continued my work on Ankylostomiasis which I hope to append as a special report. Professor CAMPBELL also intends to forward a special report on his work. A considerable



number of valuable teaching specimens have been added to the Pathological Museum during the year and the typed catalogue has been indexed and brought up to date. I should like to note the active interest of Mr. S. N. BARDHAM, Dr. FINLAYSON'S Assistant, in this matter and also the help given me by Mr. THUMBOO in indexing the catalogue. From the point of view of teaching Pathology the museum is of the greatest value. Dr. KENNEDY is forming a nucleus of an anatomical collection for teaching purposes.

7. *Hospital Assistants' Course*.--On the whole I am not pleased with this class of students. They are ignorant as a rule on entrance from the point of view both of knowledge and behaviour. They are not sufficiently long under discipline to give a proper opportunity for breaking them in and they leave in a half educated, half disciplined condition, so that when they go out to estate or other work and say that they have gone through the Singapore Medical School they give an entirely erroneous impression of the character of the training given at the School. It may be necessary to form a special hospital assistants' course under the management of the School but with a different name. It should not be assumed that all pupils are of a bad class; that is not so, but there are sufficient of an inferior nature to spoil the general tone. They are very useful, I understand, as dressers, as a rule, and if they could be thoroughly disciplined before they leave they would be a credit to the School. The general public, however, is entirely ignorant of the difference between a licentiate and a hospital assistant and quite apathetic. They have been under the charge of Mr. THUMBOO, L. M. S. (Singapore) during the past year.

The certificate since 1907 has been granted to 84 candidates and there are 45 pupils attending the course at present.

#### Other Examinations.

1. *Dental Certificate*.--The following were granted the certificate after a practical and *vivâ voce* examination conducted by Dr. T. O. NAUGHTON, D. D. S., and Mr. BUTLER, L. D. S. (Eng.):—

R. NAKAYAMA, SHIZE SHINYA, J. IKEDA.

They all showed a considerable degree of knowledge of their work.

#### Maternity Certificate.

The following passed:—

Miss CAROLINE HEATH and Miss KATIE MARIAN HILL.

#### General.

I would mention the kindness of the general practitioners and members of the Government Medical Service in giving their services to the School as lecturers.

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### APPENDIX J.

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#### PATHOLOGICAL DEPARTMENT.

REPORT BY DR. R. D. KEITH, *Acting Government Pathologist*.

#### LABORATORY, SEPOY LINES.

The number of specimens examined was less than last year, 970 compared with 1,247. This was due to the fact that many of the specimens formerly sent here by general practitioners are now examined by the Municipal Bacteriologist. This decrease in routine work allowed the Government Pathologist to devote a portion of his time to research.

The following is a synopsis of the work done:—

*Widal's reaction*:—

(a) for typhoid fever:—

Positive	...	...	...	...	49
Partial	...	...	...	...	104
Negative	...	...	...	...	274

---

*Carried forward* ... 427



				<i>Brought forward</i> ...	427	
(b) for paratyphoid fever:—						
Partial	...	...	...	...	6	
Negative	...	...	...	...	18	
					<hr/>	24
<i>Malaria</i> :—						
Parasites present	...	...	...	...	9	
„ absent	...	...	...	...	55	
					<hr/>	64
<i>Diphtheria</i> :—						
Bacilli present	...	...	...	...	4	
„ absent	...	...	...	...	2	
					<hr/>	6
<i>Gonococcus</i> :—						
Gonococci present	...	...	...	...	1	
„ absent	...	...	...	...	6	
					<hr/>	7
<i>Syphilis</i> — <i>Wassermann reaction</i> :—						
Positive	...	...	...	...	65	
Partial	...	...	...	...	8	
Negative	...	...	...	...	164	
					<hr/>	237
<i>Sputum for bacillus of tuberculosis</i> :—						
Bacillus present	...	...	...	...	8	
„ absent	...	...	...	...	22	
					<hr/>	30
<i>Urines</i> :—						
For casts:—						
Casts present	...	...	...	...	3	
„ absent	...	...	...	...	5	
For Bilharzia ova—absent	...	...	...	...	2	
„ other substances	...	...	...	...	9	
					<hr/>	19
<i>Stools—for ova, etc.</i> :—						
Ova present	...	...	...	...	7	
„ absent	...	...	...	...	7	
					<hr/>	14
Amœbæ present	...	...	...	...	8	
„ absent	...	...	...	...	38	
					<hr/>	46
<i>Dysentery</i> :—						
Bacilli present	...	...	...	...	3	
„ absent	...	...	...	...	1	
					<hr/>	4
Cholera bacilli absent	...	...	...	...	2	
					<hr/>	2
<i>Leprosy</i> :—						
Bacilli present	...	...	...	...	3	
„ absent	...	...	...	...	6	
					<hr/>	9
Differential leucocyte count	...	...	...	...	7	
					<hr/>	7
Histological sections	...	...	...	...	53	
					<hr/>	53
Pus: Cerebro-spinal fluid, etc.	...	...	...	...	21	
					<hr/>	21
					<hr/>	
Total number examined	...				970	
					<hr/>	

In addition to the above, however, a number of examinations were made in the mortuary at Tan Tock Seng's Hospital as follows:—

*Stools—*

*For ova:—*

Ova present	...	...	...	48
„ absent	...	...	...	88
				— 136

*For Amœbæ:—*

Amœbæ present	...	...	...	54
„ absent	...	...	...	129
				— 183

(Trichomonas present in 13 cases).

*For Cholera Vibrios:—*

Vibrios present	...	...	...	22
„ doubtful	...	...	...	17
„ absent	...	...	...	11
				— 50

(This was merely a rough preliminary test; subsequent bacteriological examinations were carried out in the Moulmein Hospital).

Examination of urines ... 75

*For Casts:—*

Casts present	...	...	...	6
„ absent	...	...	...	23
				— 29

*For Albumin:—*

Albumin present	...	...	...	14
„ absent	...	...	...	22
				— 36

*For Sugar:—*

Sugar present	...	...	...	...
„ absent	...	...	...	7
				— 7

For crystals, etc. ... 3  
— 3

*Examination of blood and spleen smears:—*

*For Malaria:—*

Parasites present	...	...	...	80
Pigmented mononuclears	...	...	...	5
Free pigment	...	...	...	32
Nothing seen	...	...	...	88
				— 205

*For Filaria:—*

Nil seen	...	...	...	1
				— 1

Differential leucocyte count ... 10  
— 10

*Examination of sputum:—*

*For Bacillus of Tuberculosis:—*

Bacilli present	...	...	...	8
„ absent	...	...	...	23
				— 31

*For Pneumococcus:—*

Pneumococcus present	...	...	...	4
„ absent	...	...	...	23
				— 27

Carried forward ... 718

				<i>Brought forward</i> ...	718
<i>Examination of meninges (post-mortem):—</i>					
Meningococci—not seen	...	...	...	2	2
				—	
<i>Examination of scrapings for Schistosomum Japonicum:—</i>					
Ova present	...	...	...	8	17
„ absent	...	...	...	9	
				—	
<i>Examination of liver for hydatid hooklets:—</i>					
Nothing found	...	...	...	1	1
				—	
<i>Examination for tetanus bacilli:—</i>					
Nothing seen	...	...	...	1	1
				—	
<i>Examination for cysticercus cellulosæ:—</i>					
Present	...	...	...	1	1
				—	
<i>Examination for plague bacilli:—</i>					
Present	...	...	...	2	8
Doubtful	...	...	...	1	
Absent	...	...	...	5	
				—	
(As in the case of cholera vibrios this was only a rough preliminary examination).					
<i>Examination of scrapings for Acarus:—</i>					
Acarus present	...	...	...	3	3
				—	
<i>Examination of suspected blood stains:—</i>					
Hæmin crystals prepared	...	...	...	1	4
Positive chemical test	...	...	...	3	
				—	
<i>Examination for Spermatzoa:—</i>					
Present	...	...	...	1	2
Nothing seen	...	...	...	1	
				—	
Total specimens examined				...	757

## CENTRAL MORTUARY.

## Sepoy Lines.

Total number of post-mortem examinations during 1914: 275. Of these 132 were performed for the Coroner.

## Return showing Immediate Cause of Death.

Beri-beri	...	...	17	<i>Brought forward</i> ...	179
Lobar pneumonia	...	...	11	Various septic conditions	7
Other respiratory disease	...	...	15	Tetanus	1
Malaria	...	...	10	New Growth	2
Tuberculosis	...	...	21	Plague	3
Enteric fever	...	...	5	Syphilis	1
Dysentery	...	...	28	Alcoholism	2
Cholera	...	...	10	Inanition	1
Suppurative peritonitis	...	...	20	Death from Chloroform	3
Other diseases of alimentary system	...	...	9	„ post operative shock	2
Ankylostomiasis	...	...	1	Accidents	69
Diseases of nervous system	...	...	7	Still-birth	2
„ „ circulatory system	...	...	14	Uncertain	3
„ „ genito-urinary system	...	...	11		
<i>Carried forward</i> ...				Total	275



## Return showing Incidence of Diseases.

## GENERAL DISEASES.

Beri-beri ...	...	17	Pyæmia ...	...	2
Cholera ...	...	10	Septicæmia ...	...	2
Enteric fever ...	...	19	Sapræmia ...	...	2
Malaria sub-tertian ...	...	6	Ankylostomiasis ...	...	1
benign „ ...	...	2	Syphilis ...	...	1
mixed „ ...	...	1	Tuberculosis, miliary ...	...	5
unclassified ...	...	2	„ general ...	...	1
chronic ...	...	1	Tetanus ...	...	1
Dysentery, amœbic—acute ...	...	23	Alcoholism, acute ...	...	1
„ chronic ...	...	7	„ chronic ...	...	1
„ bacillary—acute ...	...	6	Plague, bubonic ...	...	2
„ chronic ...	...	1	„ septicæmic ...	...	1
Lobar pneumonia—acute ...	...	11	Still-birth ...	...	2
„ chronic ...	...	1			

## A.—Nervous System.

Cerebral abscess ...	...	2	Cerebral hæmorrhage ...	...	1
„ laceration ...	...	7	Heat stroke ...	...	1
„ softening ...	...	1	Meningitis, septic ...	...	1
„ thrombosis ...	...	2	„ tubercular ...	...	3

## B.—Circulatory System.

Aneurism of heart ...	...	1	Myocarditis, acute ...	...	1
„ aorta ...	...	2	Pericarditis, acute ...	...	6
Endocarditis, ulcerative, aortic ...	...	2	„ chronic ...	...	1
„ chronic, mitral ...	...	1	„ tubercular ...	...	1
„ „ aortic ...	...	3	Arteriosclerosis ...	...	3
Fatty degeneration of myocardium ...	...	2	Endarteritis ...	...	1

## C.—Respiratory System.

Abscess of lung ...	...	4	Gangrene of lung ...	...	1
Atelectasis ...	...	1	Hydrothorax ...	...	1
Tuberculosis of Larynx ...	...	2	Tuberculosis of lungs, active ...	...	24
Broncho-pneumonia ...	...	23	„ quiescent ...	...	10
Tuberculosis of bronchial glands ...	...	2	Pyopneumothorax ...	...	1
Bronchiectasis ...	...	1	Pleurisy, acute ...	...	19
Empyema ...	...	1	„ chronic ...	...	3 <sup>1</sup>
Laryngitis, septic ...	...	1	„ tubercular ...	...	27

## D.—Digestive System.

Gastro-enteritis, acute ...	...	1	Cyanotic liver ...	...	1
Colitis ...	...	1	Cholangitis, acute ...	...	1
Gastric ulcer ...	...	1	Hepatic abscess, septic ...	...	1
Tubercular ulceration of small intestine ...	...	8	„ multiple ...	...	2
Tubercular ulceration of large intestine ...	...	6	„ amœbic ...	...	2
Tubercular mesenteric glands ...	...	2	„ cirrhosis ...	...	10
Epithelioma of tongue ...	...	1	„ cancer ...	...	2
Tuberculosis of liver ...	...	2	Perihepatitis ...	...	3 <sup>1</sup>
			Pigmentation of Peyer's patches ...	...	3

## H.—Affections caused by external causes.

Fracture of skull ...	...	8	Stab wounds ...	...	7
„ spine ...	...	7	Rupture of spleen ...	...	9
„ pelvis ...	...	1	„ liver ...	...	3
„ lower jaw ...	...	1	„ intestine ...	...	4
„ sternum ...	...	2	„ heart ...	...	1
„ ribs ...	...	12	„ kidney ...	...	2
„ clavicle ...	...	1	„ uterus ...	...	1
„ humerus ...	...	1	„ lung ...	...	1
„ ulna ...	...	2	Middle meningeal artery ...	...	1
„ radius ...	...	3	Drowning ...	...	10
„ femur ...	...	5	Cut-throat ...	...	1
„ fibula ...	...	1	Hanging ...	...	2
„ dislocation elbow ...	...	1	Suffocation ...	...	2
Multiple injuries ...	...	15	Scalding ...	...	1

*K.—Various conditions.*

(a) Abscess of lung ...	...	4	(b) Malformation Meckel's diverti-	...	1
„ buttock ...	...	1	culum ...	...	1
„ cerebral ...	...	2	(c) Worms, Ankylostoma ...	...	11
„ mastoid ...	...	1	Ascaris (in two cases free in peri-	...	32
„ pelvic ...	...	1	toneum) ...	...	9
„ psoas ...	...	1	Whipworm ...	...	7
„ renal ...	...	1	Distoma sinense ...	...	
„ perivesical ...	...	1			

*L.—Hæmopoietic System.*

Pernicious anæmia ...	...	1
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**MORTUARY.****Tan Tock Seng's Hospital.**

The number of post-mortem examinations held was 1,050 of which 89 were Coroner's cases.

**Causes of Death.**

Beri-beri ...	...	65	Cholera ...	...	17
Lobar pneumonia ...	...	63	Suppurative peritonitis ...	...	27
Other respiratory diseases ...	...	51	Other diseases of digestive	...	46
Accidents, etc. ...	...	31	system ...	...	29
Hanging ...	...	4	Ankylostomiasis ...	...	2
Tuberculosis ...	...	165	Schistosomiasis ...	...	26
Enteric fever ...	...	22	Neoplasms ...	...	1
Diseases of nervous system ...	...	19	Lymphadenoma ...	...	3
„ circulatory system ...	...	49	Splenic anæmia ...	...	2
„ genito-urinary system ...	...	42	Tetanus ...	...	2
Various septic conditions ...	...	58	Plague ...	...	3
Syphilis ...	...	4	Senility ...	...	2
Kala-azar ...	...	1	Death under anæsthesia ...	...	4
Malaria ...	...	90	Uncertain ...	...	
Dysentery ...	...	221			

**Incidence of Diseases.**

Beri-beri ...	...	71	Black-water fever ...	...	1
Cholera ...	...	17	Plague ...	...	2
Enteric fever ...	...	33	Senility ...	...	3
Lobar pneumonia, acute ...	...	43	Syphilis ...	...	10
„ chronic ...	...	46	Ankylostomiasis ...	...	46
Malaria, benign tertian ...	...	9	Schistosomiasis ...	...	4
„ quartan ...	...	5	Sapræmia ...	...	14
„ subtertian ...	...	74	Septicæmia ...	...	12
„ mixed ...	...	3	Pyæmia ...	...	4
„ unclassified ...	...	12	Tuberculosis, general ...	...	38
„ chronic ...	...	3	„ miliary ...	...	1
Kala-azar ...	...	1	Tetanus ...	...	2

*A.—Nervous System.*

Abscess of brain ...	...	1	Infarct, cerebrum ...	...	1
Softening of brain ...	...	9	„ cerebellum ...	...	1
Laceration „ ...	...	3	Meningitis, pachymeningitis ...	...	1
Gumma „ ...	...	3	„ leptomeningitis ...	...	2
Hæmorrhage, subdural ...	...	6	„ cerebro-spinal ...	...	1
„ cerebral ...	...	1	„ tubercular ...	...	6
„ pontine ...	...	1	Myelitis of cord ...	...	4
			Gumma of cord ...	...	2

*B.—Circulatory System.*

Aneurism of abdominal aorta ...	1	Atheroma of aorta—well marked ...	23
„ descending thoracic aorta ...	4	„ „ slight or medium ...	100
„ aortic arch ...	6	Brown atrophy of heart ...	5
„ carotid ...	1	Fatty degeneration of myocardium ...	4
„ popliteal ...	1	Ulcerative endocarditis ...	10
Dilated aorta ...	8	Chronic endocarditis ...	24
Aortitis, acute ...	1	Milk spot ...	4
Arteriosclerosis ...	21	Pericarditis, acute ...	24
		„ chronic ...	6

Marked excess of serous effusion in Pericardium Thrombosis :—

Portal vein ...	1	Pulmonary artery ...	1
Splenic „ ...	1	Cerebral vessels ...	1
Femoral „ ...	1	Cavernous sinus ...	1
Iliac „ ...	1	Left ventricle ...	1
Splenic artery ...	1	Right auricle ...	1

*C.—Respiratory System.*

Abscess of lung ...	2	Pyopneumothorax, due to bronchiec-	
Bronchiectasis ...	10	tasis ...	1
Bronchitis, chronic ...	3	Pleurisy, non-tubercular, acute ...	74
Broncho-pneumonia ...	52	„ „ chronic ...	89
Collapse of lung ...	10	„ tubercular, acute ...	13
Empyema, advanced ...	7	„ „ chronic ...	143
„ slight or medium ...	37	Tuberculosis of lungs, active ...	160
Empyema, from liver abscess ...	1	„ „ quiescent ...	17
„ gangrene of lung ...	2	Tuberculosis of trachea ...	1
„ pneumonia ...	25	„ of bronchus ...	1
„ infarct of lung ...	3	Excess of serous effusion in pleuræ ...	54
„ bronchiectasis ...	2	Tuberculosis of larynx ...	36
„ septic endocarditis ...	3	Stricture of larynx (syphilitic) ...	1
„ tubercular ...	1	Pneumonia :—	
Empyema, encysted ...	1	Acute, right side complete ...	4
Gangrene of pharynx ...	1	„ upper lobe ...	9
„ lung ...	14	„ upper and middle lobes ...	6
Infarct of lung ...	14	„ lower lobe ...	4
Cancer „ ...	5	„ middle and lower lobes ...	1
Oedema „ ...	23	„ middle lobe ...	1
Pneumoconiosis ...	1	„ left side complete ...	1
Pneumothorax, tubercular ...	2	„ upper lobe ...	1
Pyopneumothorax, due to tubercu-		„ lower lobe ...	8
losis ...	8	Both sides involved :—	
Pyopneumothorax, due to gangrene		Right upper and left lower lobes ...	1
of lung ...	1	Both upper lobes ...	2
		„ lower „ ...	2

Total number of cases in which acute pneumonia was present 40.

Pneumonia :—		Pneumonia :—	
Chronic, right side, complete ...	5	Chronic, left side, lower lobe ...	6
„ „ upper lobe ...	5	„ both sides, both lower	
„ „ middle „ ...	1	lobes ...	4
„ „ lower „ ...	6	„ „ right middle	
„ „ upper and		and lower and	
middle lobes ...	1	left lower ...	1
„ „ middle and		„ „ whole of right	
lower lobes ...	7	and left upper ...	1
„ left side, complete ...	3	„ „ right middle	
		and left lower ...	1

Total number of cases in which chronic pneumonia was present 41.

Hypostatic pneumonia, both sides ...	3	Hypostatic pneumonia, right side ...	1
„ „ left side ...	1		



*D.—Diseases of the Digestive System.*

Stomatitis ... ..	2	Dysentery—bacillary, acute ...	28
Dilatation of stomach ... ..	1	"          "          chronic ...	37
Gastritis ... ..	2	"          mixed, acute ...	16
Cancer of the stomach ... ..	6	"          "          chronic ...	40
Stricture of pylorus ... ..	1	"          malarial ...	1
Ulcer of stomach ... ..	14	Fæcal fistula ... ..	1
"    œsophagus ... ..	1	Prolapse of anus ... ..	1
"    duodenum ... ..	2	Stricture of rectum ... ..	1
Cancer of œsophagus ... ..	2	Nutmeg liver ... ..	8
Enteritis ... ..	1	Abscess of liver ... ..	10
Enteric fever ... ..	33	Angeioma of liver ... ..	4
Pigmented Peyer's patches ...	28	Cholangitis ... ..	9
Intususception ... ..	1	Cholecystitis ... ..	8
Hernia, inguinal, reducible ...	3	Fatty liver ... ..	1
"    "    partly reducible ...	1	Gumma of liver ... ..	3
"    "    strangulated ...	1	Foaming liver ... ..	1
Strangulation of ileum by band ...	1	Tuberculosis of liver ... ..	10
Tubercular ulceration of small intestine ... ..	81	Hepatic cirrhosis ... ..	52
Appendicitis, gangrenous ... ..	2	Perihepatitis ... ..	37
"    catarrhal ... ..	1	Hepatic infarct ... ..	1
"    typhoidal ... ..	1	Biliary calculi ... ..	17
"    tubercular ... ..	3	Dilated common bile duct ...	1
Colitis ... ..	7	Abscess of spleen ... ..	2
Dilated large intestine ... ..	1	Gumma of spleen ... ..	2
Tubercular ulceration of large intestine ... ..	40	Infarct of spleen ... ..	16
Dysentery—amœbic, acute ... ..	39	Perisplenitis ... ..	47
"          "    chronic ... ..	152	Tuberculosis of spleen ... ..	16
		Malarial pigmentation of spleen ...	60

*Peritonitis.*

Acute, general—Due to enteric fever	13	Acute, general—Due to secondary	
"          "    dysentery	7	endocarditis	1
"          "    duodenal		"          "    pyæmia ...	1
ulcer ...	1	"          cause uncertain ...	4
"          "    mesenteric		Acute, localized—Due to dysentery	17
abscess...	1	"          "    trauma ...	1
"          "    liver abscess	1	"          "    gastric ulcer	1
"          "    gastric ulcer	3	"          "    cholecystitis	2
"          "    cholecystitis	3	"          "    uncertain ...	2
"          "    septic hernia	1	Chronic, general ... ..	6
"          "    appendicitis	1	localized ... ..	1
"          "    tubercular ulcer		Excessive serous effusion ...	17
(perforated)		Tuberculosis of peritoneum ...	10
of small intestine...	1		

*E.—Diseases of Genito-Urinary System.*

Atrophy of kidney ... ..	3	Parenchymatous nephritis, acute ...	4
Hypertrophy " ... ..	3	"          "    subacute	8
Renal calculi ... ..	5	"          "    chronic	22
Tuberculosis of kidney ... ..	6	Chronic interstitial nephritis ...	30
Casts of kidney ... ..	9	Pyonephrosis ... ..	4
"    ovary ... ..	1	Pyelonephritis ... ..	3
Infarct of kidney ... ..	4	Stricture of urethra ... ..	3
Cystitis ... ..	3	Uræmia ... ..	7
Extravasation of urine ... ..	1	Hydrocele ... ..	6
Hydronephrosis ... ..	1	Hæmotocele ... ..	1

*F.—Diseases of Bones and Joints.*

Arthritis, knee	...	...	2	Necrosis of bone, ethmoid	...	1
„ elbow	...	...	1	„ sphenoid	...	1
Synovitis, knee	...	...	3	„ temporal	...	1
„ hip	...	...	1	„ nasal	...	1
„ ankle	...	...	1	„ rib	...	1
„ elbow	...	...	1	„ fibula	...	1
„ shoulder	...	...	1	„ tibia	...	1
Tuberculosis of bone	...	...	7	„ metatarsal	...	1
„ hip joint	...	...	1	„ femur	...	1

*G.—New Growth.*

Fibroma of kidney	...	...	1	Sarcoma of retroperitoneal glands		
Cancer of anus	...	...	2	„ (secondary)	...	1
„ liver	...	...	14	„ testes	...	1
„ lung	...	...	5	„ pharynx	...	1
„ kidney (secondary)	...	...	1	„ liver (secondary)	...	1
„ stomach	...	...	6	„ kidney	„	2
„ suprarenal	...	...	1	„ intestine	„	1
„ spleen (secondary)	...	...	1	„ bladder	„	2
„ cervical glands (secondary)	2			„ suprarenal	„	1
„ œsophagus	...	...	2	„ pancreas	„	1
„ abdominal glands				„ coccyx	„	1
„ (secondary)	...	...	4	„ rectum	„	1
„ jaw	...	...	1	„ brain	„	1
Epulis	...	...	1			

*H.—Affections produced by External Causes.*

Burns	...	...	1	Fracture, femur	...	4
Hanging	...	...	4	„ tibia	...	1
Drowning	...	...	1	„ fibula	...	1
Asphyxia	...	...	2	Stab wounds	...	6
Cut-throat	...	...	1	Multiple wounds	...	11
Dislocation of elbow	...	...	1	Gunshot wounds	...	1
Fracture—dislocation of spine	...	...	3	Rupture of bladder	...	1
Fracture, rib	...	...	5	„ duodenum	...	1
„ skull	...	...	6	„ spleen	...	8
„ pelvis	...	...	2	„ liver	...	1
„ patella	...	...	1	Heart failure under anæsthesia	...	3

*K.—Various conditions.*

Abscess, pyæmic	...	...	3	Tuberculosis of glands, tubercular		
„ of back	...	...	1	„ abdominal glands	...	18
„ chest	...	...	1	Bronchial glands (active)	...	9
„ buttock	...	...	1	„ „ (quiescent)	...	1
„ subphrenic	...	...	1	Cervical	...	4
„ ischio-rectal	...	...	1	Worms, Ankylostoma, severe in-		
„ psoas	...	...	5	fection	...	14
„ perineal	...	...	1	Worms Ankylostoma, mild infection	...	79
„ mesenteric	...	...	1	Distoma sinensé, well marked	...	7
Angina Ludovici	...	...	1	„ mild infection	...	10
Bedsore	...	...	3	Ascaris, severe infection	...	10
Cellulitis of lower extremity	...	...	1	„ mild infection	...	76
Cancrum oris	...	...	1	Trichocephalus, severe infection	...	2
Gangrene, lower extremities	...	...	9	„ mild infection	...	19
„ trunk	...	...	3	Schistosomum Japonicum	...	4
Otitis media	...	...	2	Filaria Medinensis	...	1
Parotitis	...	...	2	Tænia saginta	...	1

*L.—Hæmopoietic System.*

Lymphadenoma	...	...	1	Splenic anæmia	...	4
Pernicious anæmia	...	...	1			

As I did not take over the duties of Government Pathologist till November 19 when Dr. FINLAYSON went on leave I do not feel entitled to make many comments on the above figures. One, however, might be justified in referring to a few points.

In the first place the continued absence of sprue from the tables is noteworthy in view of the prevalence of the disease in other tropical countries. In the course of twelve years' experience in Singapore, Dr. FINLAYSON has met with practically no cases of sprue post-mortem in natives and I, certainly, in a somewhat shorter period, have never recognized a case in a native. As the work of the department is almost entirely confined to Chinese and Tamils no statements with regard to the occurrence of this disease in Europeans, Eurasians and others can be made.

Another condition which continues to be unrepresented in these figures is waxy degeneration. This I have never met with and year after year it will be found that there has been no mention of it in the reports from the Pathological Department.

The apparently small incidence of syphilis requires some comment. Only cases which showed well-marked manifestations of syphilis were included. In view of the large number of cases of aneurism, atheroma, etc., of the aorta which have been shown by FILDES and MACINTOSH (Brain. Sept., 1914) to be essentially syphilitic in origin the incidence of syphilis should be placed much higher. The results I have obtained recently in hospital and asylum patients indicate, especially in the latter, that the incidence of syphilis amongst the coolie classes is very high. The number of cases examined is not yet large enough to admit of definite statements being made and in view of present conditions there does not seem to be much likelihood of making headway with the investigation.

The Wassermann technique I have been employing is that of MACINTOSH and FILDES of the London Hospital (Brain. Nov., 1913). Drs. FILDES and MACINTOSH were exceedingly kind and took the greatest pains in instructing me in the technique of their method while I was on leave in 1913.

I have also done a number of preliminary experiments on complement fixation in Ankylostomiasis using as an antigen ground up worms in absolute alcohol with a slight addition of an alcoholic solution of cholesterin. I have been unable to demonstrate any deviation of complement even in old-standing cases of Ankylostomiasis of considerable severity.

The proportion of deaths from Malaria as revealed by post-mortem examination is a little lower than last year and much lower than in former years.

#### Tan Tock Seng's Hospital Mortuary.

<i>Year.</i>				<i>No. of P. Ms.</i>	<i>Deaths due to Malaria.</i>
—				—	—
1907	...	...	...	1,083	212
1908	...	...	...	1,472	372
1909	...	...	...	1,278	241
1910	...	...	...	1,403	314
1911	...	...	...	1,743	434
1912	...	...	...	1,422	216
1913	...	...	...	1,010	105
1914	...	...	...	1,050	90

If we compare the malaria deaths in 1907 with those in 1914, when the number of post-mortem examinations is practically the same we see that there is a marked improvement. The number of cases admitted in a comatose condition is much diminished.



On the other hand the number of deaths from dysentery continues high but not quite so high as in some of the previous years.

<i>Year.</i>		<i>No. of P. Ms.</i>	<i>No. of deaths from dysentery.</i>
—		—	—
1907	...	1,083	196
1908	...	1,472	459
1909	...	1,278	296
1910	...	1,403	277
1911	...	1,743	364
1912	...	1,422	334
1913	...	1,010	220
1914	...	1,050	221

Since the opening of the Moulmein Road Hospital the number of post-mortem examinations on cases of infectious diseases has greatly diminished.

The case of Kala-azar occurred in a native of Madras who had arrived shortly before from India.

The case of *Tænia saginata* occurred in a Pathan. Eight worms were found in the intestine.

During the year a number of pathological specimens of interest were preserved and mounted.

Report on work carried out in the Dysentery Ward XV, Tan Tock Seng Hospital, during the months March–October, 1914, also on the bacteriological investigations which were conducted at the Laboratory, by Dr. FINLAYSON, Government Pathologist.

There were admitted 343 patients of whom 254 were found to be suffering from Dysentery, the majority, 183, were Chinese, while the remainder were of varied nationalities.

Tamil	...	47	Bengali	...	4	Malay	...	2
Malabari	...	4	Sikh	...	2	Javanese	...	3
Chulia	...	5	Hindu	...	1	Japanese	...	3

#### Variety of infection.

				<i>Chinese.</i>	<i>Other nationalities.</i>
				—	—
1.	Acute or subacute amœbic	...	...	22	22
2.	Chronic amœbic	...	...	113	34
3.	Acute amœbic with acute bacillary	...	...	5	...
4.	Chronic amœbic „ „ „	...	...	3	2
5.	Chronic „ „ chronic „	...	...	11	7
6.	Acute bacillary	...	...	11	3
7.	Chronic bacillary	...	...	18	3
				—	—
				183	71
				—	—

#### Average.

		Age.		Duration of Stay.		Cured.		Relieved.		In Statu quo.		Died.		
		Chinese.	Tamil.	Chinese.	Tamil.	Chinese.	Tamil.	Chinese.	Tamil.	Chinese.	Tamil.	Chinese.	Tamil.	
1.	Acute amœbic	...	36	31	10	18	5	4	7	3	4	10	3	
2.	Chronic	...	36	33	24	10	34	8	25	11	11	1	43	14
3.	A. Am. & Ac. Bac.	...	36	...	12	...	...	...	...	...	...	5	...	
4.	C. Am. & Ac. Bac.	...	47	20	15	35	...	...	...	1	...	3	1	
5.	C. Am. & Ch. Bac.	...	37	31	11	38	1	...	...	1	...	10	6	
6.	Acute bacillary	...	37	23	15	23	5	2	...	...	1	5	1	
7.	Chronic bacillary	...	35	33	22	12	4	...	3	...	1	10	3	
							49	18	32	20	16	5	86	28

Excluding a case aged 76 the average age of the Chinese suffering from Acute Bacillary Dysentery was reduced from 37 to 30.

*Routine examination.*—As early as possible after admission a microscopic examination of the stool was made for the presence or absence of amœbæ, whether motile or cystic, Trichomonas and the ova of intestinal worms, while the physical appearances of the fæces were noted on the bed ticket. If nothing pathogenic was observed a mild saline purge, Mist. Sennae Co., Mist. Alba, etc., was prescribed, to be given at 5 A.M. the following morning so that a fresh stool was practically always obtainable when the next visit was paid. The specimen was again examined and in a large number of instances when the Amœba Tetragena could not be demonstrated a sample was taken and plated on McConkey's Lactose bile salt neutral red agar.

Suspicious colonies were then picked off and put through the various sugar media, broth, etc., while they were tested against specific agglutinating sera.

The history of the disease as stated by the patient was almost invariably discounted as it appears to be impossible to obtain any reliable information regarding such an illness from the average coolie. Greater reliance was placed upon the physical examination as one could readily palpate the dense infiltrated sigmoid in the majority of chronic cases, many of whom stated that they had been suffering from the usual symptoms only for a short period; almost all denied that they had passed through a similar attack or attacks at a prior date. Not so much difficulty was experienced in the acute cases where the typical signs and symptoms could be readily observed.

In the instances where amœbæ were found the stools were regularly and systematically examined by myself or by one of the medical students attached to the ward so that the effect of the administration of Emetine Hydrochloride should be duly recorded. On admission each suspected case was given emetine intracellularly, whether amœbæ had been observed or not, until such time had elapsed as allowed a bacteriological examination to be completed.

#### Acute Amoebic.

Chinese 22.—Cured 5, Relieved 4, In Statu Quo 3, Died 10.

The average duration of stay of those discharged cured was 20 days, while each had received on an average 8 grains of emetine.

The Tamil results were more favourable; of 22 admitted there were cured 8, Relieved 7, In Statu Quo 4, Died 3.

The average duration of stay of those returned as cured was 17 days, varying from 11 to 21 days while the average amount of emetine given was 15 grains. One convalescent contracted cholera one month after admission and was sent to the Infectious Disease Hospital.

Died 13 or 30 per cent.

Complications	{	1 Hepatic abscess—after operation.
		3 Suppurative peritonitis from perforation; one of these infected with malaria.
		1 Gangrene of lower extremity.

Four died within 48 hours of admission, a further four within a week, while five ranged from 10–19 days.

Of those who improved under treatment five absconded, two left against advice, one stated he wished to enter the General Hospital and one was sent to China. Six unrelieved absconded within a few days of admission, one within 24 hours, a Malabari suffering from Malaria, Ankylostomiasis and Dysentery, Amœbæ and Trichomonas being found in the dejecta.

#### Chronic Amœbic.

Chinese:—Cured 34, Relieved 25, In Statu Quo 11, Died 43.

The average duration of stay of those patients returned as cured was 26.5 days while the average amount of emetine administered was 23 grains varying in amount from 4 to 100 grains. One was infected with malaria while one suffered from Ankylostomiasis.



Died 43 or almost 40 per cent. Eight within a week, two of those within 48 hours, twenty-four lived for a period varying from 10-21 days while fourteen remained in the ward for 3-6 weeks; four were in hospital 2-3 months.

Complications { 1 Ankylostomiasis with pleuritic effusion.  
2 Ankylostomiasis.  
2 Hepatic Cirrhosis.  
3 Tuberculous disease of the lungs.  
1 Pulmonary Gangrene.  
1 Hemiplegia.  
1 Gangrene of lower extremity.

Relieved 25. Seven absconded, 10 left against advice, while four were despatched to China.

Unrelieved 11. Five absconded, two left against advice, while one was repatriated.

Tamils 29 :—Cured 6, Relieved 11, In Statu Quo 1, Died 11.

Cured 6. The average duration of stay was 20 days while each received on an average 11 grains of emetine.

Relieved 11. Four absconded, four left against advice, one showed malarial parasites in the blood. The unrelieved case absconded on the second day after admission.

Died 11 or almost 40 per cent.

Complications { 2 Malaria with Ankylostomiasis.  
1 Ankylostomiasis.  
1 Cerebral Thrombosis.  
1 Pulmonary Gangrene.

Two died within a week, one on the second day, five survived for a period varying from 10-21 days, three lived for two months, while the existence of one was prolonged for almost three months.

#### **Acute Amœbic with Acute Bacillary.**

Chinese 5 :—One was admitted in a dying condition, one lived for six days while the others survived 2-3 weeks.

#### **Chronic Amœbic with Acute Bacillary.**

Chinese 3, Tamil 2. Only one Tamil aged 20 with a further Benign Tertian infection showed improvement, having received 20 grains of emetine and 50 c.c. antidyenteric serum. One died on the second day suffering also from Ankylostomiasis and an Empyema, the others lived for three weeks.

#### **Chronic Amœbic with Chronic Bacillary.**

Chinese 11. Cured 1. This patient aged 29, received 18 grains of emetine with 30 c.c. antidyenteric serum and was discharged after 43 days in hospital.

Died 10. All within a fortnight of admission, the duration of stay varying from 4-14 days.

Complications { 1 Malaria.  
1 Enteric Fever.

Tamil 7 :—One aged 35, improved after the administration of 23 grains of emetine and left hospital three months after admission.

Died 6. Complications { 1 Malaria with Ankylostomiasis.  
2 Ankylostomiasis.  
1 Pulmonary Gangrene.

Three died within a week, one survived for 3 months.

#### **Acute Bacillary.**

Cured 7, In Statu Quo 1, Died 6.

Of those discharged cured one, Malay aged 23, received 40 c.c. serum, a second, Chinese aged 43, received 50 c.c. serum, a third, Chinese aged 31, was injected with  $\frac{1}{4}$  agar slope of a killed culture of his specific infection while a fourth, Japanese, aged 25 recovered on saline treatment.

The injection of the dead culture into the anterior abdominal wall produced a necrosis of a considerable area of the superficial structures. The resulting ulcer healed up rapidly under simple local treatment and the patient was discharged in a thoroughly fit condition. One, unrelieved, absconded on the 2nd day.



Died 6 or 43 per cent. Four died within 48 hours of entry into the ward; one suffered from Malaria.

#### Chronic Bacillary.

Chinese 18:—Cured 4, Relieved 3, In Statu Quo 1, Died 10.

The average stay of those discharged cured was 46 days, varying from 16–90 days.

One Chinese aged 32 received 40 c.c. serum and was sent out after a month in hospital. One also suffered from a concomitant malarial infection.

Relieved 3. Two absconded soon after admission. The unrelieved case disappeared on the second day.

Died 10. Complications  $\left\{ \begin{array}{l} 1 \text{ Chronic Endocarditis.} \\ 1 \text{ Hepatic Cirrhosis.} \\ 1 \text{ Cerebral Thrombosis.} \end{array} \right.$

Tamil—died 3. Accordingly 13 or 62 per cent died, three within a week, one within 24 hours, a further four within a fortnight, while seven ranged from 16–42 days.

Amongst the 89 cases sent to the ward with a history that mucus or blood had been observed in the fæces were:—

1. *Malaria* 23.—Cured 15. Absconded in improved state 8, Malaria with Ankylostomiasis, cured 3, died 1.

There is no doubt but that in a small proportion of cases suffering from a malarial infection, there is an associated enteritis causing symptoms simulating those produced by the pathogenic amœba or bacillus. At autopsy there may be observed a superficial necrosis of the mucosa at localized areas of the small or large gut, the lesions being induced by the blocking of the capillaries by minute thrombi. Rapid amelioration usually follows on placing the patient on a reduced diet after a brisk purge while naturally quinine is exhibited in the routine manner.

2. *Ankylostomiasis* 7.—Cured 3, Relieved 3, Died 1.

When such cases exhibit an ascites it may be readily understood why a considerable excess of mucus may be passed with a stool. Recently oleum chenopodium has been employed with very favourable results.

3. *Diarrhœa* 34 —Cured 17, Relieved 17.

In the majority of cases all the treatment necessary was a smart purgative, the condition being probably due to some error in diet. Twelve of the latter absconded within a few days, six within 24 hours of admission to the ward, as they perhaps did not relish the reduced dietary when the pangs of hunger assailed them.

4. *Tuberculosis of Lungs* 4.—Discharged to ward XVI 2, Died 2.

The tuberculous ulceration of the gut in each instance gave rise to the dysenteric symptoms.

5. *Lobar Pneumonia* 2.—One died on the second, the other on the fifth day.

6. *Tuberculous Pericarditis* 1.—Died a few days later.

7. *Hepatic Cirrhosis* 5.—Transferred 1, Absconded 1, Died 3.

The ulceration of the gut in two instances was produced by the *Schistosomum Japonicum*. On plating the fæces of one patient *B. pyocyaneus* was noted in great numbers. At the autopsy the same organism was isolated in almost pure culture from small Broncho-pneumonic areas of pulmonary consolidation.

8. Syphilitic proctitis	...	...	2	relieved.
Hæmorrhoids	...	...	1	transferred for operation.
Gastric ulcer	...	...	1	died.
Bronchiectasis	...	...	1	died.
Endocarditis—chronic	...	...	1	died.
Debility—opium smoking	...	...	2	absconded.

#### Administration of Emetine.

In acute cases of Amœbic dysentery the patient received either a grain or  $1\frac{1}{2}$  grains per diem until the stool was passed in a formed condition both the excess of mucus and blood having completely disappeared. Clinically a most favourable

prognosis can be given when the fæces approach a natural consistence and appearance in 3-4 days but the drug must be continued for several days longer as a relapse will almost certainly occur when the individual is put upon a fuller diet, though amœbæ cannot be detected in the motion for perhaps some days before the relapse occurs. The prognosis continues favourable, even though a week elapses before the motion assumes a somewhat normal appearance, several Tamil patients being discharged cured after the injection of 15-30 grains of the drug.

Unfavourable results have to be recorded—a series of five died after receiving on an average 13 grains varying in amount from 10-17½ grains while into a further series of six relieved, absconded or left against advice were injected on an average 23 grains varying in quantity from 15-31 grains.

In each instance it is recorded that the stool continued loose, merely a turbid brownish fluid with shred of mucus or small sloughs. In those cases which died the diagnosis was verified at the autopsy. Cases of the chronic amœbic type also received a similar dose of the drug per diem and the treatment in many instances was maintained for a considerable period, a few patients being injected with as much as 60 grains, and ultimately discharged in a fit condition. A series of 22 received on an average 8 grains varying in amount from 4-12 grains while a further series of 16 received on an average 32 grains varying in amount from 18-60 grains. Under treatment the earlier the stool approaches a natural consistence the more favourable the prognosis and more rapid the convalescence. A number of cases continued to pass loose unformed motions for a period varying from 10-30 days and ultimately recovered though the possibility of an early recurrence in such is to be feared, for the average coolie does not understand the term "indiscretion in diet." A series of 23 who died in hospital and on whom an examination was held had received on an average 18½ grains, a further case had actually received intracellular injections to the amount of 90 grains, a chronic obstinate case with very faint hope of recovery as one wished to demonstrate the condition of the mucosa after such a large quantity of the drug had been administered. One has reached the conclusion that in such cases the cause of death is the result of the dysenteric lesions; there is no active mischief. The ulcers are healing or have actually healed transforming the mucosa into merely scar tissue; in many instances only small islets of sodden mucosa can be demonstrated amidst the mass of cicatricial substance. The large gut is powerless to carry out its physiological functions and the individual dies practically of starvation of his tissues. During the period under review the greater percentage of the cases were treated with Merck's preparation of Emetine Hydrochloride. Equally satisfactory results were obtained with the extract of Ipecacuanha root prepared by the Government Analyst. The patients, however, more frequently complain of pain at the site of injection when the latter preparation is employed.

*Bacillary Dysentery.*—The series of cases treated with Antidysenteric serum is too small to draw any conclusions, though one is pleased to record the marked improvement in the condition of the patients suffering from an acute attack after the injection of 40-50 c. c. Two cases, suffering from a combined chronic infection, died having received 20 c. c. with 7 grains of emetine. As may be deduced from the results recorded above a patient who has contracted both the amœbic and bacillary varieties, has indeed an exceedingly feeble hope of recovery. From the fæces several varieties of *B. Dysenteriae* were isolated, giving the following sugar reactions:—

		<i>Glucose.</i>	<i>Maltose.</i>	<i>Mannite.</i>	<i>Sorbite.</i>	<i>Raff- inone.</i>	<i>Sacc- harose.</i>
		—	—	—	—	—	—
Shiga 6	...	+	...	...	...	...	...
Flexner 13	...	+	+	+	...	...	...
„ (Willmore Eltor) 3	+	...	+	...	...	...	...
"Y" Hiss Russell 6	+	+	+	...	+	...	...
Strong 1	...	+	...	+	...	...	+
? / 6	...	+	...	+	+	...	...
? 2	...	+	...	+	...	+	...
? 1	...	+	*	+	+	...	+



Each was tested against one or more specific sera. As there is now acknowledged to be a great mutability of the bacillus no great stress should be laid upon the sugar fermentation test but it is noteworthy what a large proportion fall into the three main groups—Shiga, Flexner and “Y”. The differentiation of the varieties of the organism by attaching a label—name of a place or an individual—is to be deprecated. Castellani and Chalmers in their last edition give the reactions of 12 varieties of dysentery and pseudo dysentery bacilli along with 3 B. of Morgan. One imagines that on examining the literature the list could be made almost endless.

*Trichomonas*.—A trichomonad which may be the *Trichomonas dysenteriae* Billet 1907, described later by Ganducheu, was found in twelve cases. I am unable to find a detailed description in the references at my disposal, so it may be a form hitherto undescribed. Dr. SCOTT was of opinion that it was the causal agent in the production of intestinal lesions but with that I humbly disagree. It is found in cases of amœbic dysentery, acute or chronic, and its presence compels one to give a grave prognosis. Six died, one absconded, unrelieved, while five left relieved—against advice or absconded. Emetine appears to exercise no specific action, it may not be observed in the stool for a few days after its presence has been recorded; then there is a sudden outpouring of the protozoon which may again disappear after an interval of a few days. Amœba Coli was observed in three cases, associated with the passage of mucus and blood. The parasite rapidly disappeared on the exhibition of emetine.

*Malaria*.—In some thirteen cases malarial parasites were demonstrated in the peripheral blood; whether an individual so infected loses his power of resistance to an invasion by the specific amœba or bacillus of dysentery is a doubtful point, though one might suppose that the resulting anæmia would render him more susceptible to infection. When combined with Ankylostomiasis the condition of the patient is indeed serious.

*Operative Measures*.—In three patients Appendicostomy was performed; in each the result was most disappointing as all died within 3 days. One may with diffidence suggest that Lane’s operation might be performed in a series of selected cases though one understands how difficult it is to obtain a patient’s consent when fit to stand such an operation. Usually consent is given when the surgeon is compelled to combat most unfavourable circumstances.

*Treatment—Dietary*.—Each case on admission was put upon albumen water 3 pints, two or three eggs to the pint, and barley water, 3 pints per diem. No further nutriment was allowed for at least three days when bread  $\frac{1}{2}$  lb., and thin arrowroot one pint was added. No milk either diluted with barley water or undiluted was given until the stool was semiformed and of a natural colour. One was taught by experience that in the majority of cases undigested curd was passed in quantity, showing that the intestinal tract was incapable of dealing with that form of nutriment. Convalescent cases received albumen water, bread 1 lb., arrowroot, and rice “Conjee,” white or Siamese rice being used for the preparation of the “Conjee,” as it appears to have less irritable properties than “Conjee” prepared from parboiled rice—while milk diluted with an equal amount of barley water one or two pints daily was permitted only in such instances as showed that the curd could be digested and absorbed. It was immediately cut out of the dietary when the characteristic intestinal flecks appeared in the fæces.

*Medicinal Treatment*.—Apart from the systematic use of emetine other drugs were employed, mainly sedatives and intestinal antiseptics; Tr. Opii. was frequently exhibited, also a powder containing Salol, Bismuth Carbonate and Pulv. Ipecac. Co. ten grains of each. Alcoholic stimulants were studiously avoided save in gravely collapsed cases.

*General*.—The proper treatment of coolies suffering from Dysentery is carried out under extremely difficult conditions. A large factor with which one has to contend is that the patients cannot be made to understand that a great limitation in the amount of nutriment is essential. Consequently the patient buys, borrows or steals rice, vegetables, pork, etc., while “absconding” is so frequent that it came to be regarded as almost a daily event—patient not in his bed at 8 P.M., etc., was the ordinary type of observation. The behaviour of the Japanese on the other hand is admirable.

Of admissions 59 absconded, 31 suffering from dysentery of one or other form. The majority departed within the first three days, probably labouring under the idea that if they remained they would be undoubtedly starved until released by death.



The instances given below indicate that restraint ought to be placed upon the patient if treatment is to be carried out in an efficient manner.

Tamils 1.	Admitted 18-2-14, left against advice	5-5-14.
	„ 7-5-14 „ „ „	1-6-14.
	„ 6-6-14, absconded	3-7-14.
	Brought by Police 5-7-14, died	8-7-14.
Tamils 2.	Admitted 9-6-14, left against advice	12-6-14.
	„ 2-7-14, died	3-7-14.
„ 3.	„ 13-5-14, absconded	10-6-14.
	„ 10-7-14, died	21-7-14.
Chinese 1.	„ 19-5-14, left against advice	12-6-14.
	„ 9-7-14, died	10-8-14.
„ 2.	„ 14-7-14, left against advice	4-8-14.
	„ 1-9-14, died	2-9-14.

The question of the dissemination of the disease and the “carrier” problem, etc., have been fully discussed by Sandwith in his recent Lettsomian Lectures. *Lancet*, September 5th, 12th, 19th and 26th. Well aware that the difficulties are many and great I do not consider that they cannot be surmounted and I strongly urge that dysentery should be made a notifiable disease and that patients of the coolie class should be treated in an isolation hospital. Measures are taken for the isolation of small-pox, plague and cholera but where these diseases slay their tens it is no exaggeration to state that in Malaya dysentery slays its thousands. I am quite cognisant of the fact that the solution entails great expenditure—the provision of an adequate and pure water supply, the efficient disposal of garbage and night-soil, the destruction of fly-breeding grounds, etc., but the liberty enjoyed by the individual suffering from chronic dysentery is a constant menace to the public especially to those who enjoy his intimacy so that a restriction ought to be placed on his movements, certainly when under treatment in hospital.

#### Summary.

1. Acute dysentery, amœbic or bacillary can be readily cured if specific treatment is available at an early stage.
2. When the infection is severe with a considerable area of bowel involved there is very faint hope of recovery.
3. The condition of chronic cases can be greatly ameliorated.
4. The prognosis in a combined infection is exceedingly grave, also when the trichomonas is found in the dejecta.
5. Hepatic abscess is infrequent.
6. Emetine may be given, 1 grain per diem for an indefinite period without the production of any untoward symptoms.
7. Reference to the various annual reports will show the extent of the ravages inflicted by this disease.
8. For the proper and adequate treatment of patients drawn from the coolie class the restrictions afforded by an isolation hospital are necessary.
9. Consequently the disease should be classed under its proper term—“Acute Infectious” and compulsory notification introduced.

## APPENDIX K.

ANNUAL REPORT ON THE MEDICAL DEPARTMENT, LABUAN,  
FOR THE YEAR 1914.

(By J. W. ADAMS, M.B., B.C. (Cantab).)

*Population and health.*—Table showing the estimated population, and the birth and death-rates, for the years 1912 to 1914:—

Years.	Estimated Population.	Births.	Deaths.	Birth-rate.	Death-rate.
1912 ... ..	6,634	211	125	31·80	18·84
1913 ... ..	6,706	216	144	32·20	21·47
1914 ... ..	6,746	185	145	27·40	21·49

During the year no new coolies have been imported into Labuan. The birth-rate was highest during the first quarter, and the death-rate also was highest during the first quarter. Of the total number of deaths Malaria accounted for 27, old age and debility for 14, phthisis for 28, Beri-beri for 6, Other causes and Unknown for 16. The mortality under one year of age was 50 as against 49 in 1913.

The following table shows the infantile mortality under 1 year of age:—

Years.	Deaths.	Percentage to total Death-rate.	Percentage to total Birth-rate.
1912 ... ..	42	33·60	19·90
1913 ... ..	49	34·02	22·68
1914 ... ..	50	34·48	27·02

There were two still-births. Causes of deaths amongst infants were given as follows:—

Malaria 10, Convulsions 31, Bronchitis 5, and Unknown 4.

*Anti-malarial Work.*—May be considered under two headings:—

(1) Work carried out by the Rural Board under the vote for Anti-malarial work. Several small slow-running streams in the region of Government House and the European quarter were put underground in earthen-ware pipe drains. The European quarter is approximately one-and-a-quarter miles from the town of Victoria, Labuan.

A much more important piece of work was commenced close to the actual town of Victoria. Numerous Anopheline mosquitoes were found in the Police Barracks. They were found to be breeding in a gully about a quarter of a mile in length which is within two hundred yards of the Police barracks at its nearest point to them. They were identified as *Anopheles Ludlowii* by the Government Pathologist in Singapore. The filling in of this gully has been completed. The vote of \$2,000 for anti-malarial works has been expended except for a few dollars.

(2) Systematic treatment of Police with quinine.

This was commenced by my predecessor, Dr. CLEVERTON, about the beginning of the year. Till the end of June the Police had 5 grains of quinine each daily. After this they had 15 grains each once a week. The latter method appears to be equally



satisfactory and saves quinine. The results of this quinine distribution were good as can be seen from the following figures. The Police admissions for Malaria during 1913 were 43 and during 1914 sixteen only.

*Visits to Brunei.*—The Medical Officer now visits Brooketon (in Brunei) twice a month to attend to the staff who are employed by the Rajah of Sarawak at the colliery there. This arrangement began in October.

*Beri-beri.*—This disease shows a decrease from the previous year. Seventeen patients were treated in hospital for this disease as against 23 in 1913. No deaths occurred amongst them. Of the total number of deaths 6 were attributed to this disease as against 4 in 1913. Parboiled rice was used throughout the year in hospital.

*Venereal Diseases.*—These diseases are on the increase. Twenty-nine cases were admitted to hospital during the year as against 25 in 1913. Twenty five cases were treated as out-patients as against 16 in 1913. Only one death is attributed to this disease.

*Pulmonary Tuberculosis.*—Four cases were treated in hospital during the year as against 12 in 1913. Two cases were treated as out-patients. Of the total number of deaths 28 were attributed to this disease. The percentage of death was 19·31 of the total death-rate as against 13·1 in 1913.

*Dysentery and Diarrhœa.*—Four cases were admitted to hospital during the year as against nine cases in 1913. All these cases were imported from British North Borneo. Labuan is practically free from dysentery.

*Port Health Work.*—Three ships were medically examined during the year. These ships were granted immediate pratique. Twelve Bills of Health were issued during the year.

*Police Force.*—The general health of the force has been satisfactory during the year. Forty-one cases were admitted to hospital as against 63 in 1913. Two hundred and sixty-eight cases were treated as out-patients as against 285 in 1913. Sixteen cases of Malaria were admitted to hospital as against 43 in 1913. Of the 268 cases treated as out-patients 75 were Malaria, as against 128 in 1913.

*Gaol.*—The health of the inmates was satisfactory. Twenty-eight prisoners were admitted to hospital during the year as against 41 in 1913, of whom 3 were treated for Malaria. Twenty cases were treated as out-patients, of whom 2 were treated for Malaria. The gaol was not crowded as in 1913 hence the sickness has also been less. No deaths occurred amongst the prisoners during the year.

*Out-patients.*—Five hundred and sixty-six cases were treated as out-patients during the year as against 740 in 1913. There were 11 Europeans, 16 Eurasians, 229 Malays, 228 Indians and 13 other nationalities. The chief diseases treated were Malaria, Bronchitis, Dyspepsia and Constipation.

*Vaccination.*—The total number of cases vaccinated was 149 as against 332 in 1913. Of the 149 vaccinated 133 were successful and 16 were not seen. Distant villages were visited to vaccinate the children. Many parents have removed their children with them to British North Borneo where they go in search of work.

Children 3-4 months old were 78, 4 months to one year were 42 and above one year were 29. The lymph supplied was excellent.

*Meteorological.*—The North-East Monsoon blew from January to the end of April when the South-West Monsoon blew to the end of December. The total rainfall during the year was 82·05 inches as against 141·30 inches in 1913. The wettest month during the year was August when 12·42 inches fell. The greatest rainfall which fell on any day during the year was 4·0 inches on the 11th May.

Maximum Temperature in shade was 94·0° on 9th May.

Minimum Temperature in shade was 71·0° on 14th April and 8th August.

The maximum mean Temperature was 87·9° Fht.

The minimum mean Temperature was 77·0° Fht.

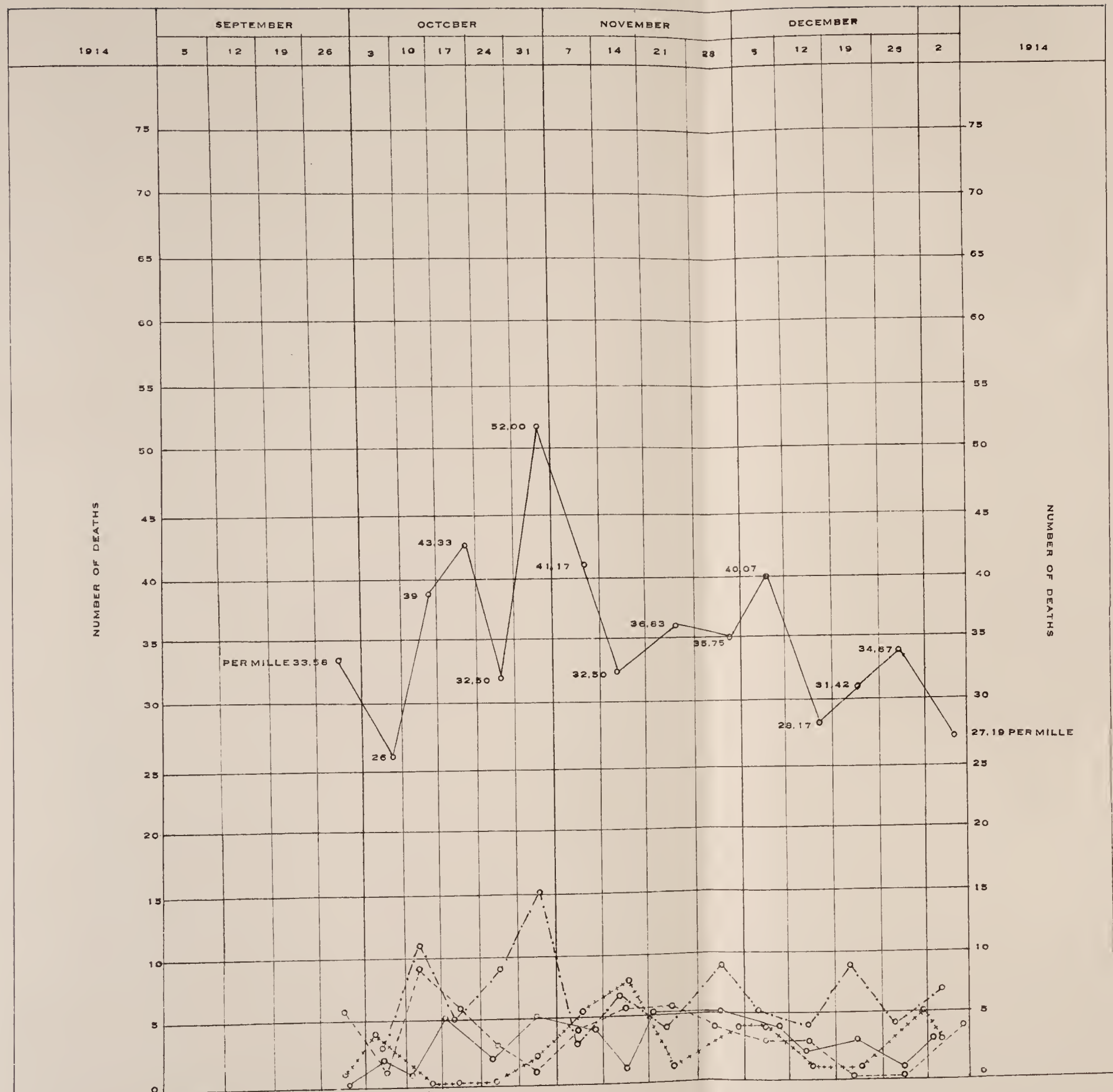
The mean Temperature was ... 82·4° Fht.

*Hospital.*—The total number of admissions during the year was 198 as against 242 in 1913 making a total treated of 203, including 5 remaining over from 1913. Thirty-seven Malays, 98 Chinese, 54 Indians, 1 Eurasian and 8 other nationalities were admitted. There were 12 operations performed as against 11 in 1913. There were 6 deaths in hospital giving a percentage mortality of 2·95 as against 4·03 in 1913. One death occurred within 20 hours of admission. The chief diseases treated were Malaria 45 with 2 deaths, Beri-beri 15 with no deaths, Pulmonary Tuberculosis 4 with 2 deaths, Dysentery and Diarrhœa 4 with no deaths and Venereal Disease 15 with 1 death. There were no changes in Hospital buildings and grounds except minor repairs.



# CHART SHEWING DEATH RATES RURAL AREA SINGAPORE

FOR SEPT - DEC. 1914



LITHO: AT THE COL: ENGINEER'S OFFICE SINGAPORE S. S. NOV 1915

ORDINARY DEATHS ————— PHTHISIS - - - - - CONVULSIONS . . . . . MALARIA + + + + + BERI-BERI —————



## APPENDIX L.

## SINGAPORE RURAL BOARD.

## Annual Medical Report for 1914.

(BY DR. A. G. H. SMART, *Health Officer.*)

1. This report only dates from June 11th when the appointment of Assistant Health Officer, Singapore, was created.

2. *Population and death-rate.*—The estimated population for the rural area was 48,123. Death-rates are only available for the last quarter of the year (taken as 13 weeks). During this period there were 441 deaths equivalent to a yearly death-rate of 36.65 per mille. A chart showing the incidence of the death-rates in malaria, beri-beri, phthisis and convulsions is attached.

3. The following visits were made:—

Visits to estates (first occasion)	...	...	...	22
Later visits	...	...	...	11
Visits to Reformatory	...	...	...	73
Visits to schools	...	...	...	86
Visits to Government buildings or land (not included above)				73
Other visits	...	...	...	12
Total				277

The above include visits to Pulo Bukum, Pulo Tekong, Pulo Ubin, Pulo Brani and St. John's Island. Estate visiting was largely stopped during the months following the commencement of the war. Visiting of schools, in connection with an inspection of all the Singapore school children, started, in the case of the English schools, after the August-September vacation and in the case of the Vernacular Schools at the close of the Bulan Puasa.

4. *Rubber Estates.*—The larger estates visited included:—

—	Acres.	LABOUR FORCE.			
		Chinese.	Javanese.	Tamils.	Total.
Bukit Sembawang ...	5,745	1,253	127	11	1,391
Singapore United Estate	4,200	254	306	479	1,039
Seletar ...	840	10	5	386	401
Pulo Ubin ...	800	186	39	...	225
Ulu Pandan ...	784	68	80	23	171
Bukit Timah ...	727	248	50	97	395
Ulu Bri ...	650	...	...	78	78
Keat Hong ...	400	60	...	...	60
Total ...	...	...	...	...	3,760

The first six named estates are all visited regularly by a qualified doctor. According to the Land Office Register there are about 140 estates of over 25 acres in extent in Singapore.



About 30 of these have been in the habit of sending in monthly health returns more or less regularly but very rarely indeed is any coolie returned as leaving an estate on account of sickness. It is especially difficult to determine the health conditions on an estate where the work is largely done under contract by Chinese labour. On each of the smaller, Chinese owned, estates, conditions are practically identical. There is a plank and attap line with at one end an annexe set apart for a kitchen; an open latrine dug somewhere near; and at the edge of some water-course two shallow wells, one being the drinking water supply and the other, at a lower level, being used for bathing purposes. The latrine is often an iron *kuali* or concrete tank whence the night-soil is removed periodically when ready for manure. In many pigs are kept with the inevitable pond in which to grow plants for their feed. Such ponds in Singapore are common breeding places for several species of anopheline mosquito. It is the exception for these coolies not to use mosquito nets. There is no medical attention on such estates and if a coolie becomes chronically sick he usually drifts into Singapore into one of the hospitals.

5. *Reformatory.*—The general health remained good and new admissions soon showed the benefit derived from their change to reformatory life. Only a small percentage of the boys come from Singapore, the balance being made up of admissions from the Federated Malay States, Malacca and Penang. There were 7 boys who came in infected with malaria from Bukit Nanas, Perak, Penang, Malacca, Java (one each) and Singapore (two), and several of these had relapses from time to time. There was no indigenous malaria in the place. Several cases of ankylostoma infection occurred.

Trachoma was present right through the year and interfered with the daily routine at the Reformatory. At one time, in July, 50 cases were being treated as such out of a total population of 90 boys. But from an inspection of the Singapore schools made later one found that Trachoma was permanently present in such institutions, more especially among the poorer class of children, as will be shown later. It seems doubtful whether the term "outbreak" can be applied to the state of affairs existing at the Reformatory. Out of the total schools (excluding the Reformatory) aggregating 8,766 pupils seen 4·1 per cent were found with this disease, and 2·7 per cent with a simple conjunctivitis. In the orphanage attached to the convent which takes in the poorest possible class of children, like the Reformatory, the amount of Trachoma present was found to be 28·4 per cent.

In the early part of the year the Reformatory boys were in the habit of massaging each other's eyes and eyelids, a recognized practice among Chinese. For this purpose a stiff stalk of grass was employed, one boy who was specially adept operating on his friends. The stalk of grass was passed well under the upper lid towards the outer angle of the eye, and was then rolled between the forefinger and thumb of one hand while the tips of the fingers of the other hand would lightly massage over the lids. This process would be repeated for the lower lid and the operation was completed by the operator passing the fine stalk down the tear duct into the nose and drawing it up and down several times rather sharply, at the same time massaging over the duct as described above. This practice was no doubt largely responsible for the production of Trachoma in the Reformatory in epidemic form from an already existing amount which formed a focus of infection.

With regard to treatment the best results, where the condition was advanced, were undoubtedly obtained from the use of Carbon dioxide snow, each case requiring several applications. All the cases were isolated and the services of a dresser to assist in treatment were lent from Tan Tock Seng's Hospital. At the end of the year there were 26 cases of undoubted Trachoma, 14 with a simple conjunctivitis and a number had been discharged from isolation.

#### Post Office.

6. All the staff at the General Post Office were gone through medically and certain improvements in the working conditions instituted. Three of the staff had to be boarded out.

7. A horse ambulance for cases of infectious disease was delivered during the year and put into use.

#### Anti-malaria Work.

8. For the second half of the year the anti-malaria work hitherto carried on by Dr. FINLAYSON under the anti-malaria committee was divided between the Municipal Health Office and this department, each taking charge of its own area. Of the various measures carried out during 1912-1913, practically all dealt with land within Municipal limits.



*Woodlands.*—Anopheline larvæ could be readily recovered from different sites at Woodlands. From the ravine stream running past the Police Station and under the road were recovered *Anopheles aitkeni* and *A. karwari*, the former a very frail rather culex-like mosquito with unspotted wings, both doubtful carriers of malaria. These were recovered on each of three successive visits. Since the channel of the stream was cleared and defined at the end of 1913 it is less easy for mosquito larvæ to get shelter here but the felling of the growth on the banks has allowed branches to fall across and obstruct the natural course of the stream. *A. karwari* could be recovered from the foothill drains at the edge of the permanent way. It is of interest to note the health of the Johore native troops numbering 55 officers and men who were stationed at this site from August to November. Dr. GRANT of Johore who was in medical charge and to whom I am indebted for this information, reports that only ten cases of malaria occurred among his men, eight of these being trivial attacks. He says "On the whole I found that the health of men was more "satisfactory when stationed at Woodlands "than when they were on duty at Johore. The same lot of men had not a continuous stay at Woodlands—the same men were stationed at Woodlands and Kranji "alternately with fortnightly intervals at Johore. The officers, 5 in number, had a "continuous residence at Woodlands during the four months and no case of fever "occurred amongst them." There was also a considerable improvement in the health of the Police stationed at Woodlands as compared with previous years. This improvement is coincident with the apparent absence of *Anopheles maculatus* at this site during the year although I would point out that there are eminently suitable breeding grounds for this mosquito in the neighbourhood and this absence cannot be counted on as likely to be permanent.

*Estates.*—From 19 rubber estates visited consecutively anopheline larvæ were found in eleven breeding in the vicinity of the lines, in most cases recovered in an ordinary inspection of the lines and not after any prolonged search. Many of these breeding sites were ones which could easily with small expenditure and a little subsequent care be abolished—a common nyssorhyncus site was in the overflow from open wells whose edge was flush with the surrounding ground—this of course would disappear with the substitution of type wells. From the usual pond found on the Chinese estates where pigs are kept were recovered *A. sinensis*, *Cellia kochii* and *A. barbirostris*, named in the order of frequency in which each could be found. In addition *A. maculatus* and *A. karwari* were taken from open spring-fed ditches. *Nyssorhyncus umbrosus* was found at one place only, on the Chua Chu Kang Road, on somewhat peaty land. *A. rossi* could probably be recovered from any estate and is therefore not included here. *A. aitkeni* *N. umbrosus* were for the first time, I believe, found breeding in Singapore.

Enough was not seen of the different estates to form a clear idea of the exact health conditions on each but certain measures relative to the abolishing of mosquito breeding grounds were suggested in several cases and carried into effect.

*Pearls Hill.*—There was a good deal of malaria among the Sikh Police at Sepoy Lines and later at Pearls Hill, a large percentage of "first attacks" occurring. In connection with this two anopheline breeding grounds were dealt with—one at the railway cutting at People's Park where *A. maculatus* was present and the other some concrete tanks in the Chetty Temple at Sepoy Lines where *A. sinensis* was breeding. These ponds were in the first instance treated by stocking with Ikan Aruan (*Ophiocephalus striatus*) which feeds on mosquito larvæ but this proving unsatisfactory, the tanks were filled in.

Some work was also done under the Anti-malaria Committee to a site behind Tan Tock Seng's Hospital partially on Government land. At the Reformatory no first attacks of malaria were noted, that is, boys infected at the Reformatory, in spite of the fact that at almost any time during the year *A. maculatus* could be recovered from a site not distant more than fifty yards from the Reformatory building. No imagines of this mosquito were caught in the Reformatory which is on an elevation of about 50 feet above this breeding ground and 100 feet above mean sea level.

During October *Nyssorhyncus* larvæ were found breeding in large numbers on a typical site on St. John's Island. By a combination of coral drains to tap springs and raising the level of this area by filling in, the Resident Medical Officer did away with this breeding ground.

Amongst means employed for the destruction of mosquito larvæ other than drainage and oiling, the stocking of suitable sites with larvæ-eating fish and, suggested from Pennsylvania, the employment of ducks are measures which are of value and have their undoubted uses. Lately it has been suggested that in the Bahamas tadpoles are responsible for the absence of mosquito larvæ in certain sites. This, if the case in the Bahamas, does not seem to apply to the tadpole of the frogs

of Singapore, the most common species of which is *Rana limnocharis*. Commonly one meets tadpoles and mosquito larvæ developing in the same site; and in experiments made the tadpole did not devour mosquito larvæ—either anopheline or culicinine. It is necessary to make a distinction between these two in this connection for the former larva in rest lies parallel with the surface of the water and it might be a difficult feat for a tadpole to seize a larva especially if one notes the position of the tadpole's mouth, except when the larva dives. On the other hand culicine larvæ rest with their bodies at an angle to the water surface and could be readily seized by a tadpole. But I have seen such larva (*stegomyia*) remain confined in a small space with tadpoles unharmed for over 14 days.

A census of mosquitoes caught in the native wards of the General Hospital was suggested by Dr. FINLAYSON and carried out during the last two months of the year. Thirty examinations resulted in a total bag of 1,333 mosquitoes. The species found each day remained very constant. 51·4 per cent were *Culex ager*, an exceedingly common mosquito in Singapore; 32·5 per cent were *C. fatigans* another very common species; *C. gelidus* were 7·3 per cent and anophelines 4·7 per cent being about an equal number of *A. rossi* and *A. ludlowi* with an occasional *A. sinensis* and on two occasions a specimen of *Cellia kochii*; 3·2 per cent belonged to the genus *mansonia* of which 3 species were represented and ·53 per cent to *stegomyia*—either *scutellaris* or *fasciata*. The scarceness of *stegomyia* may be partly accounted for by the fact that the collections were usually made about noon when *stegomyia* would not be likely to be resting.

#### Incidence of Malaria.

9. Returns of malaria admissions were obtained from Tan Tock Seng's Hospital the General Hospital and Kandang Kerbau Hospital for the last 6 months of the year. Tan Tock Seng's Hospital return for this period shows 869 admissions. It is difficult to tell from this return the amount of malaria occurring outside Municipal limits: only a few cases are shown definitely as coming from this area and most of these come from the vicinity of Bukit Timah Road. But picking out those cases with a residence in the Settlement of only 15 days or less, it is possible to get more definite figures. Eighty-five came from Johore (72 of whom had left Johore within a week) about 75 having had one or more previous attacks. In these cases it is fairly clear that infection was not contracted in Singapore. Several visits were made to Woodlands and the day spent in watching passengers landing from the ferry but it was apparent that sick coolies did not choose this method of coming over from Johore, and it is likely that they come over by sampans from the southern districts of Johore while those from Muar come in by small coasting steamers. None of these sick coolies appear to have gone direct to hospital but only after halting at a friend's house for a day or two.

The following is a list of places contributing cases from outside Singapore and which went into any of the hospitals mentioned above within 15 days of arrival in Singapore:—

	Cases.	Percentage Admissions.
Johore ... ..	111	53·1
Federated Malay States and P. M. S.	30	14·3
Java and Dutch Islands ...	24	11·4
Pulo Ubin ... ..	11	5·2
Pulo Bukum ... ..	10	4·7
Malacca ... ..	3	1·4
Pulo Pisang ... ..	2	·95
Pulo Tekong ... ..	1	·47
China ... ..	2	·95
Bangkok ... ..	2	·95
Pulo Hantu ... ..	2	·95
India ... ..	2	·95
Penang ... ..	1	·47
Hongkong ... ..	1	·47
Kerimon ... ..	3	1·04
Australia ... ..	1	·47
Tonkin ... ..	2	·95
British North Borneo ...	1	·47
Total ...	209	



that is, 209 cases out of a total of 1,212 admissions (17·2 per cent) and of these 209, 111 (53·1 per cent) came from Johore. Abstracting females and children from the Singapore total we assume 995 adult males as getting infected in Singapore in six months and seeking admission to hospital—a yearly rate over the estimated male adult population of Singapore for 1914 of 9·2 per mille.

It should be pointed out that all coolie immigration ceased from the beginning of August and this may have diminished the admission rate. But during July, there were no cases admitted which had arrived from India or China within 15 days so that any real error would only seem to occur in the internal rate and would be due to the decrease in the resident population produced by stopping immigration. On the other hand to compensate for this it should be remembered that large numbers of coolies drifted into Singapore during these months and although repatriation was largely employed a certain proportion would undoubtedly find its way to hospital and go to swell the admission rate for malaria.

#### School Inspection.

The estimated child population of Singapore for 1914 was 48,295—23,988 males and 24,307 females. The school population in Government or Government Aided Schools was 9,477—19·6 per cent, 7,328 males, approximately 30·5 per cent of the total male child population, and 2,149 females approximately 8·8 per cent of the total female child population. Apart from this there is a school population probably amounting to about 1,000 belonging to a number of Chinese vernacular schools. These schools of which there are 6 did not come within the scope of this examination. The largest takes in between 400 and 500 pupils. In addition there are a number of small private schools run by Chinese whose pupils are estimated to amount to another thousand.

Thirty-five schools were examined, 17 being English schools and the rest vernacular. The Reformatory was also examined but is not included with the others as it draws only a small proportion of its scholars from Singapore.

There were actually seen 8,766, there being 7·5 per cent absent at the time of inspection. The nationalities were as follows:—

Europeans	...	...	...	...	} 1,457
Eurasians	...	...	...	...	
Japanese ...	...	...	...	...	12
Chinese ...	...	...	...	...	5,721
Malays ...	..	...	...	...	1,658
Indians ...	...	...	...	...	517
Others ...	...	...	...	...	112

Table showing the incidence of the chief diseases present in the Singapore schools.

1. Defective vision.		2. Defective teeth.		3. Vaccination poor or absent.		4. Spleen enlarged.		5. Simple conjunctivitis.		6. Trachoma.	
Total percentage.		Total percentage.		Total percentage.		Total percentage.		Total percentage.		Total percentage.	
1·7		21·1		6·9		...		2·7		4·1	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1·4	2·7	20·3	24·2	7·1	6·1	1·4	...	2·9	2·2	3·5	6·06

With regard to No. 1 the figures are probably under the mark, only representing cases who complained of some defect or who were pointed out by their teachers. Spleen examinations were made only in the boys' schools. Except in the case of one of the earlier schools each pupil was examined lying down and the spleen palpated from the right side. In most cases of enlargement the spleen exhibited a definite alteration in consistency. The highest spleen rate was 8·1 per cent at the Teluk Blangah School; quite a number of schools had a spleen rate corresponding to nil,

The following tables show the results obtained at this examination compared with those obtained by Dr. FINLAYSON at previous examinations :—

TABLE A.

SCHOOLS.				DATE OF EXAMINATION.									
				1911.		April, 1912.		January, 1913.		May, 1913.		October, 1914.	
				Pupils Seen.	Percentage with Spleen.	Pupils Seen.	Percentage with Spleen.	Pupils Seen.	Percentage with Spleen.	Pupils Seen.	Percentage with Spleen.	Pupils Seen.	Percentage with Spleen.
Kampong Glam	...	...	274	12.4	...	...	...	...	...	...	264	1.5	
Rochore	...	...	143	18.8	...	...	...	...	...	...	120	1.6	
Kallang	...	...	69	4.3	...	...	...	...	...	...	92	2.1	
Kampong Rokok	...	...	51	3.9	...	...	...	...	...	...	39	...	
Upper Tanglin	...	...	45	11.1	...	...	...	...	...	...	58	6.8	
Lower Tanglin	...	...	67	5.9	...	...	...	...	...	...	66	1.5	
Sepoy Lines	...	...	46	15.2	...	...	...	...	...	...	42	2.3	
Telok Blangah	...	...	39	46.1	52	50.0	58	20.7	59	11.0	49	8.1	
Kampong Jagoh	...	...	44	29.5	45	17.7	51	15.7	40	7.5	46	6.5	
Anglo-Chinese	...	...	484	3.0	...	...	...	...	...	...	548	2.5	
St. Andrew's Missions	...	...	...	...	357	1.7	...	...	...	...	431	1.1	

Addresses were obtained in 91 out of 99 cases of enlarged spleen and are shown as follows in Districts :—

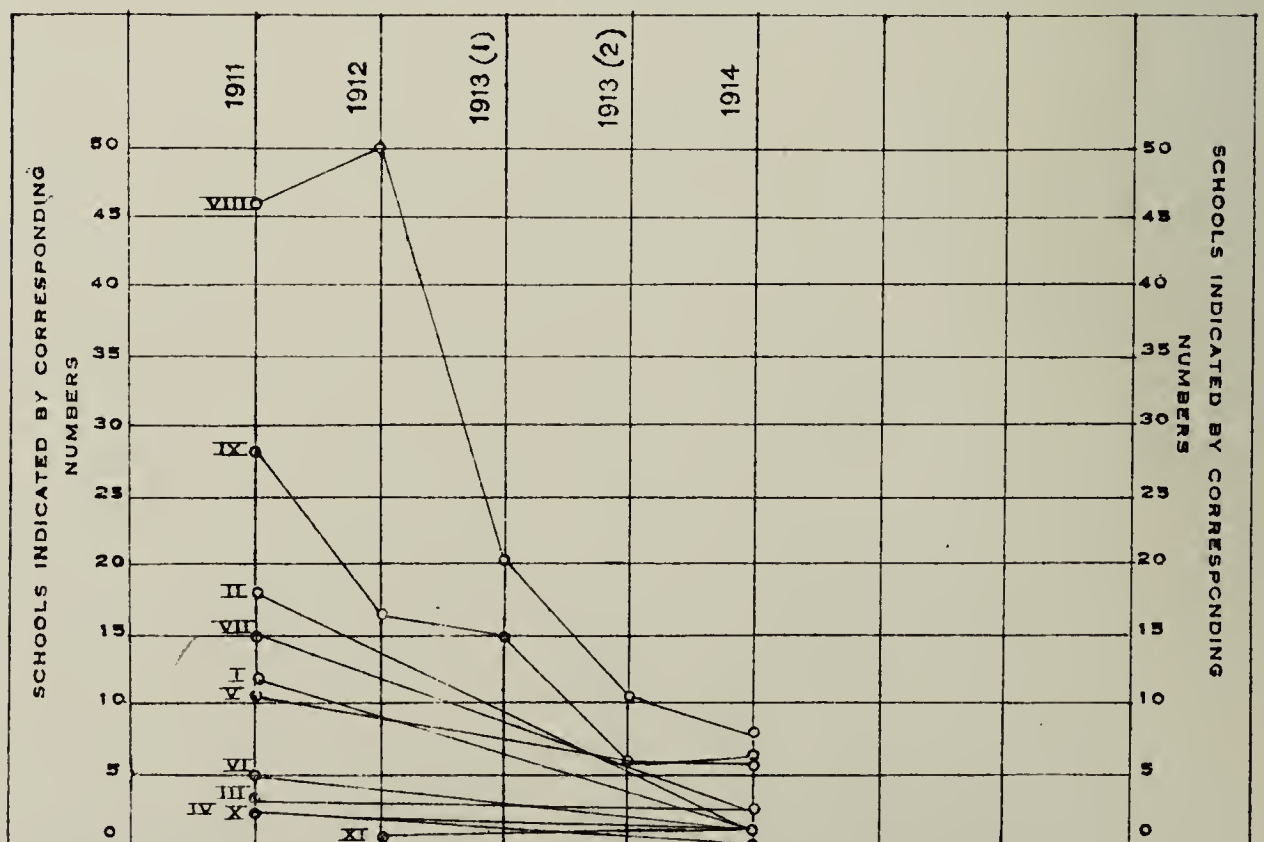
	Percentage.
Johore ... ..	13.1
Telok Blangah District	13.1
Cecil Street District ... ..	6.5
Tanjong Pagar and Duxton Road Districts	6.5
Race Course District ... ..	5.4
Mount Sophia and Dhobi Ghaut Districts	5.4
Pulo Brani District ... ..	3.2
Bukit Timah 7th mile District	2.1
Outside Settlement (other than Johore)	9.8

The most striking drop is seen in the case of the Telok Blangah and Kampong Jagoh Schools. As the average stay of a pupil at the ordinary Malay school is about 5 years it follows that very few of the pupils originally examined in 1911 were remaining at the present examination and that the fresh generation represent a greatly reduced infection rate as regards malaria. This drop is coincident with and is without doubt a direct result of anti-malaria measures carried out in the areas which feed these schools. As regards Telok Blangah School, mention need only be made of such work carried out in the case of the Mount Faber ravines, of Breeze Hill, Radinmas, Kampong Pahang and Tiong Bahru and in connection with Kampong Jagoh School work done in the Keppel Harbour area, at Mosque ravine, Chandu Factory ravine, Seah Im Road, Keppel House ravine and Telok Blangah adjacent to the tramway terminus.





TABLE "B"  
 CHART SHEWING GRAPHICALLY THE FALL IN SCHOOL  
 SPLEEN RATES FROM 1911 TO 1914



In Kampong Glam School which is one of the schools which teaches up to the Vth standard and consequently draws pupils from a wide area, the lowered spleen rate is partly the result of an improvement all round; but apart from this Kampong Glam and Rochore Schools have undoubtedly benefited from the elimination of extensive breeding grounds at Kampong Kapur for *A. sinensis*, *A. rossi*, *A. ludlowi*, and another breeding ground for *A. sinensis* which formerly existed near Arab Street. The spleen rate among the Straits-born Chinese has never been found high and the results obtained at this examination only confirm previous findings. It will be noticed that practically 23 per cent were imported cases.

Trachoma has already been mentioned: it was found present in 362 (4.1 per cent) of the pupils seen and it is likely that many of those classified as simple conjunctivitis were early cases of trachoma. The majority of the patients seemed to be unaware of the presence of the disease, although some could recognize certain subjective symptoms. Dr. KEITH was good enough to see some of the cases with me.

The following table shows approximately the rate for each nationality:—

Europeans and Eurasians	...	...	...	1.9 per cent
Chinese	...	...	...	3.5 „
Malays	...	...	...	3.2 „
Indians	...	...	...	4.06 „

The highest percentages were found in the Convent Orphanage School (28.4 per cent), Pearls Hill School (12.8 per cent) and the Short Street Methodist Girls' School (10.1 per cent). If more than one member of a family was seen it was the rule to find all affected: in one school 4 brothers were seen with trachoma. Addresses were recorded in 266 cases and 44 of these lived within a radius of a quarter of a mile from the old Cross Street School, now transferred to Pearls Hill. This partly explains the high incidence in the latter school which draws its pupils largely from this area. In the case of the Methodist Girls' School a number of pupils attended from a home in the vicinity a large percentage of whom appeared to have trachoma. There is no doubt that this condition is wide-spread through Singapore, being most common amongst the poorest classes where there is nothing to hinder its spread and everything favours infection, and less common as one ascends the social scale, where personal cleanliness is more practised and living generally is more sanitary. In this connection it is of interest to see that Dr. HEISER is recently quoted saying that trachoma affects fully 10 per cent of the school children of the Philippines. In all cases of disease pupils were advised to obtain proper treatment and in many cases were taken to a doctor by one of their teachers. Often one saw instances of comparatively simple conditions which were being allowed to go on and grow worse where, if medical advice was suggested, the child simply dropped attending school for the time being. But it was very apparent that children who were suffering from disease which was evident on the surface, did not, as a rule attend school. There is a big field among the school population and the child population as a whole for education towards more modern ideas of medical treatment and for inculcating the doctrines of a simple personal and domestic hygiene.

## SINGAPORE.

*Return of the Statistics of Population for the Year 1914.*

					Europeans.	Eurasians.	Malays.	Chinese.	Indians.	Other Nationalities.	TOTAL.
Number of inhabitants in 1914	...				6,218	5,085	45,511	239,034	30,215	4,136	330,199
„ Births during the year 1914					145	174	1,883	5,996	519	58	8,780
„ Deaths „ 1914					59	102	1,631	8,470	856	138	11,256
„ Immigrants „ 1914					}	Not	avail	able.			
„ Emigrants „ 1914											
Number of inhabitants in 1913	...				6,044	4,943	44,240	232,363	29,372	4,022	320,984
Increase ... ..	...	...	...	...	174	142	1,271	6,671	843	114	9,215
Decrease ... ..	...	...	...	...	...	...	...	...	...	...	...

*Meteorological Return for the Year 1914.*

		TEMPERATURE.						RAINFALL.		WINDS.		REMARKS.
		Solar Maximum.	Minimum on Grass.	Shade Maximum.	Shade Minimum.	Range.	Mean.	Amount in Inches.	Degree of Humidity.	General Direction.	Average Force.	
		°F	°F	°F	°F	°F	°F	Inches.	%			
January	...	137.3	70.1	86.2	73.1	13.1	79.8	24.35	85.0	N.E.	2.7	
February	...	154.4	69.7	90.6	73.1	17.5	82.9	3.04	76.0	N.E.	6.6	
March	...	151.1	70.9	89.8	73.5	16.3	82.8	9.33	79.0	N.E.	5.0	
April	...	147.2	71.5	89.3	74.3	15.0	84.2	13.32	82.0	S.E.	3.9	
May	...	150.8	73.3	91.5	76.4	15.1	85.6	2.74	77.0	S.E.	5.1	
June	...	139.6	73.3	87.3	76.0	11.3	83.4	8.75	79.0	S.E.	6.7	
July	...	145.0	74.0	87.4	77.1	10.3	83.6	3.99	78.0	S.E.	8.8	
August	..	149.2	72.8	88.6	76.9	11.7	84.6	1.30	73.0	S.E.	9.4	
September	...	148.4	72.7	88.8	75.9	12.9	83.2	2.55	74.0	S.E.	6.6	
October	...	146.8	71.6	89.1	75.0	14.1	83.9	2.17	76.0	S.E.	4.5	
November	...	152.1	72.1	89.0	74.7	15.3	82.8	6.93	79.0	S.E.	4.8	
December	...	144.3	72.7	87.8	74.9	12.9	82.0	7.37	82.0	N.E.	3.8	
Mean	...	147.1	72.0	87.9	75.0	13.7	83.2	85.84	78.0	...	5.6	



## SINGAPORE.

*Return of Diseases and Deaths in 1914 at the following Institutions:—  
General Hospital, Prison, St. John's Island, Tan Tock Seng's Hospital, Quarantine  
Camp, Leper, Beri-beri and Kandang Kerbau Hospitals and Lunatic Asylum.*

DISEASES.	Remain- ing in Hospital at end of 1913.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1914.	REMARKS.
		Admis- sions.	Deaths.			
INFECTIVE DISEASES.						
Black Water Fever	...	6	2	6	1	
Beri-beri	180	941	101	1,121	132	
Chicken-pox	...	8	...	8	...	
Cholera	1	53	30	54	...	
Dengue	...	38	...	38	...	
Diphtheria	...	6	1	6	...	
Dysentery	37	701	300	738	42	
Endocarditis, infective	...	...	...	...	...	
Enteric Fever	4	115	55	119	4	
Erysipelas	...	7	...	7	...	
Gonorrhœa	11	258	...	269	19	
Febricula	...	29	...	29	...	
Leprosy	38	87	16	125	52	
Malaria, Benign Tertian	11	529	22	540	21	
Malignant Tertian	57	1,225	92	1,282	53	
Quartan	...	181	11	181	7	
Mixed	...	41	...	41	1	
Chronic	19	527	15	546	14	
Not differentiated	42	1,199	18	1,241	59	
Measles	...	12	...	12	...	
Mumps	1	2	...	3	...	
Phagedæna	3	22	13	25	...	
Plague	...	5	4	5	...	
Pneumonia	7	223	106	230	7	
Pyæmia	...	8	7	8	...	
Pyrexia	1	68	...	69	2	
Rheumatism	1	74	1	75	1	
Septicæmia	4	39	30	43	...	
Small-pox	...	11	1	11	...	
Syphilis, Primary	17	219	...	236	16	
Secondary	91	1,319	21	1,410	69	
Tertiary	...	77	3	77	7	
Tetanus	...	5	3	5	...	
Tuberculosis	9	93	54	102	5	
Yaws	...	2	...	2	...	
Other Diseases	...	9	1	9	...	
INTOXICATIONS.						
Alcohol	2	56	...	58	1	
Mercury	...	1	...	1	...	
Morphinism (Opium)	...	14	...	14	1	
GENERAL DISEASES NOT INCLUDED IN THE TWO PRECEDING GROUPS.						
Anæmia (Splenic)	4	87	4	91	...	
Diabetes	1	8	1	9	1	
Exophthalmic Goitre	...	1	...	1	...	
Lymphadenoma	...	3	1	3	...	
Old age and Debility	8	92	13	100	15	
Other Diseases	...	66	29	66	4	
Carried forward	549	8,467	955	9,016	534	

## Return of Diseases and Deaths in 1914 at the Singapore Hospitals.—Continued.

DISEASES.	Remain- ing in Hospital at end of 1913.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1914.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward ...</i>	549	8,467	955	9,016	534	
CERTAIN MORBID CON- DITIONS INCIDENT TO VARIOUS PARTS.						
Malformations ...	...	3	...	3	...	
New Growth ...	...	27	...	27	...	
Non-malignant ...	...	20	...	20	...	
Malignant ...	3	8	3	11	...	
Cyst ...	...	6	...	6	...	
DISEASES OF THE NERVOUS SYSTEM.						
DISEASES OF THE NERVES.						
Neuritis ...	8	123	5	131	12	
DISEASES OF THE SPINAL CORD AND MEMBRANES.						
Meningitis ...	...	4	4	4	...	
Myelitis ...	6	6	2	12	2	
Locomotor Ataxia ...	...	6	2	6	2	
DISEASES OF THE BRAIN AND MEMBRANES.						
Meningitis ...	1	7	7	8	...	
Hæmorrhage ...	...	9	8	9	...	
Abscess ...	...	1	1	1	...	
Other Diseases ...	1	5	5	6	...	
NERVOUS DISORDERS.						
Cerebral Softening ...	...	6	2	6	...	
Paraplegia ...	8	18	2	26	5	
Hemiplegia ...	22	54	6	76	21	
Neurasthenia ...	...	...	...	...	1	
Paralysis ...	2	13	2	15	5	
Epilepsy ...	19	10	4	29	11	
Headache ...	...	3	...	3	...	
Neuralgia ...	...	4	...	4	...	
Sclerosis ...	...	4	1	4	...	
Apoplexy ...	...	...	...	...	...	
Insanity ...	8	123	...	131	...	
Other Diseases ...	3	25	...	28	...	
MENTAL DISEASES.						
Idiocy ...	...	1	...	1	...	
Mania, Acute ...	203	85	67	288	168	
Recurrent ...	5	8	...	13	2	
Chronic ...	4	...	...	4	4	
A potu ...	1	29	1	30	13	
Senile ...	7	10	1	17	7	
Melancholia, Acute ...	27	40	14	67	35	
Chronic ...	8	3	...	11	7	
General Paralysis of Insane...	3	5	3	8	2	
Dementia, Secondary ...	150	5	10	155	145	
Organic ...	20	1	1	21	1	
Primary ...	6	6	3	12	5	
Other Diseases ...	19	46	19	65	48	
<i>Carried forward ...</i>	1,083	9,191	1,128	10,274	1,030	

## Return of Diseases and Deaths in 1914 at the Singapore Hospitals.—Continued.

DISEASES.	Remain- ing in Hospital at end of 1913.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1914.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward ...</i>	1,083	9,191	1,128	10,274	1,030	
DISEASES OF THE EYE.						
Conjunctivitis, Catarrhal ...	10	31	...	41	2	
Purulent ...	1	42	...	43	3	
Keratitis ...	3	4	...	7	2	
Cornea, Ulcer of ...	2	54	...	56	2	
" Opacity ...	12	28	...	40	12	
Iritis ...	1	34	...	35	3	
Optic Neuritis ...	1	4	...	5	1	
Cataract ...	3	11	...	14	3	
Panophthalmitis ...	...	1	...	1	...	
Entropion ...	...	2	...	2	...	
Other Eye Diseases ...	48	151	...	199	47	
DISEASES OF THE EAR.						
Hæmatoma of Auricle ...	...	2	...	2	...	
External Ear, Inflammation. ...	...	1	...	1	...	
Otorrhœa ...	...	1	...	1	...	
Other Diseases ...	...	36	1	36	...	
DISEASES OF THE NOSE.						
Epistaxis ...	...	1	...	1	...	
Naso-pharyngeal Catarrh ...	...	2	...	2	...	
Coryza ...	...	1	...	1	...	
Other Diseases ...	...	25	...	25	...	
DISEASES OF THE CIRCULATORY SYSTEM.						
Pericarditis ...	...	13	13	13	...	
Endocarditis ...	...	6	5	6	...	
Valvular Disease ...	3	56	23	59	2	
Aneurysm ...	1	15	13	16	...	
Thrombosis ...	1	...	...	1	...	
Arterial sclerosis ...	...	2	2	2	...	
Other Diseases ...	...	41	9	41	3	
DISEASES OF THE RESPIRATORY SYSTEM.						
Asthma ...	5	53	1	58	2	
Laryngitis ...	...	10	...	10	1	
Bronchitis ...	7	333	...	340	11	
Hæmoptysis ...	...	...	...	...	...	
Broncho-pneumonia ...	1	49	22	50	3	
Phthisis ...	39	471	241	510	31	
Pleurisy ...	...	22	3	22	...	
Empyema ...	2	20	11	22	...	
Pyopneumothorax ...	1	9	7	10	...	
Gangrene of Lung ...	...	10	7	10	1	
Other Diseases ...	...	15	4	15	...	
<i>Carried forward ...</i>	1,224	10,747	1,490	11,971	1,159	



## Return of Diseases and Deaths in 1914 at the Singapore Hospitals.—Continued.

DISEASES.	Remain- ing in Hospital at end of 1913.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1914.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward ...</i>	1,224	10,747	1,490	11,971	1,159	
DISEASES OF THE DIGESTIVE SYSTEM.						
Stomatitis ...	...	11	...	11	...	
Cholecystitis ...	...	9	5	9	...	
Caries of Tooth ...	...	7	...	7	...	
Cholangitis ...	...	4	4	4	...	
Sorethroat ...	...	3	...	3	...	
Tonsillitis ...	1	21	...	22	1	
Pharyngitis ...	3	57	1	60	1	
Gastritis ...	1	71	...	72	2	
Ulceration, Stomach ...	...	13	6	13	...	
Dyspepsia ...	5	151	...	156	7	
Other Diseases of Stomach..	1	8	2	9	...	
Enteritis ...	...	68	4	68	1	
Appendicitis ...	2	29	4	31	1	
Colitis ...	2	55	3	57	8	
Ulcer Duodenum ...	...	1	1	1	...	
Hernia, Reducible ...	3	48	2	51	1	
„ Strangulated ...	...	1	1	1	...	
Obstruction, Intestines ...	...	2	1	2	...	
Diarrhœa ...	9	235	4	244	5	
Constipation ...	...	54	...	54	...	
Colic ...	...	3	...	3	...	
Ischio Rectal Abscess ...	...	15	1	15	1	
Fissure of Anus ...	...	3	...	3	...	
Fistula in Ano ...	2	34	...	36	1	
Piles ...	1	36	...	37	...	
Prolapse of Rectum ...	...	5	...	5	...	
Abscess ...	1	11	8	12	1	
Cirrhosis ...	7	71	23	78	5	
Hepatitis ...	1	2	1	3	...	
Jaundice ...	...	11	...	11	1	
Gall Stones ...	...	2	...	2	...	
Peritoneum, Inflammation ...	...	32	29	32	...	
Ascites ...	...	4	...	4	...	
Other Diseases ...	1	148	21	149	5	
DISEASES OF THE LYMPHATIC SYSTEM.						
Bubo ...	8	226	...	234	1	
Spleen, Inflammation ...	...	8	...	8	...	
Rupture ...	...	4	3	4	...	
Glands, Inflammation ...	...	4	...	4	...	
Hæmorrhoids ...	...	16	...	16	...	
Other Diseases ...	...	20	...	20	...	
DISEASES OF THE URINARY SYSTEM.						
Bright's Disease ...	4	4	3	8	...	
Nephritis, Acute ...	...	42	12	42	5	
Chronic ...	2	42	25	44	2	
Cystitis ...	...	17	4	17	1	
Calculus ...	1	5	...	6	...	
Urine, Retention of ...	1	4	...	5	1	
Pyonephrosis ...	...	3	3	3	...	
Other Diseases ...	1	45	21	46	...	
<i>Carried forward ...</i>	1,281	12,412	1,682	13,693	1,210	

## Return of Diseases and Deaths in 1914 at the Singapore Hospitals.—Continued.

DISEASES.	Remain- ing in Hospital at end of 1913.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1914.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward ...</i>	1,281	12,412	1,682	13,693	1,210	
DISEASES OF THE GENERATIVE SYSTEM.						
(MALE ORGANS.)						
Abscess ...	...	3	...	3	...	
Stricture ...	...	32	...	32	1	
Urethral Fistula ...	...	3	...	3	...	
Extravasation of Urine ...	...	2	...	2	...	
Phimosis ...	1	32	...	33	...	
Paraphimosis ...	...	11	...	11	...	
Soft Chancre ...	17	271	...	288	10	
Hæmatocele ...	...	1	...	1	...	
Balanitis ...	...	2	...	2	...	
Epididymitis ...	...	15	...	15	...	
Hydrocele ...	2	25	...	27	2	
Orchitis ...	1	24	...	25	1	
Abscess Testis ...	1	2	...	3	...	
Hernia „ ...	...	8	...	8	...	
Other Diseases ...	1	37	...	38	1	
(FEMALE ORGANS.)						
Endometritis ...	2	11	1	13	1	
Salpingitis ...	...	3	...	3	...	
Vulva, Inflammation ...	...	2	...	2	...	
Soft Chancre ...	1	7	...	8	...	
Fistula Vesico, Vaginal ...	...	4	...	4	...	
Pelvic Cellulitis ...	...	2	...	2	...	
Sapraemia ...	...	2	1	2	1	
Other Diseases ...	1	54	1	55	2	
AFFECTIONS CONNECTED WITH PREGNANCY.						
Abortion ...	...	1	...	1	...	
Pregnancy ...	12	343	8	355	7	
Other Diseases ...	...	2	2	2	...	
DISEASES OF THE FEMALE BREAST.						
Mastitis ...	2	2	...	4	...	
DISEASES OF THE ORGANS OF LOCOMOTION.						
Periostitis ...	1	12	...	13	...	
Caries ...	...	4	...	4	...	
Necrosis ...	...	4	...	4	...	
Arthritis ...	8	79	1	87	9	
Synovitis ...	3	52	2	55	5	
Ankylosis ...	...	3	...	3	2	
Caries of Spine ...	2	10	6	12	...	
Lumbago ...	...	12	...	12	...	
Other Diseases ...	13	108	5	121	10	
<i>Carried forward ...</i>	1,349	13,597	1,709	14,946	1,262	

## Return of Diseases and Deaths in 1914 at the Singapore Hospitals.—Concluded.

DISEASES.	Remain- ing in Hospital at end of 1913.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1914.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward ...</i>	1,349	13,597	1,709	14,946	1,262	
DISEASES OF THE CONNECTIVE TISSUE.						
Cellulitis ...	2	103	4	105	4	
Abscess ...	10	290	5	300	9	
Œdema ...	...	10	...	10	...	
Gangrene ...	1	1	1	2	...	
Elephantiasis ...	...	5	...	5	1	
Other Diseases ...	...	6	1	6	...	
DISEASES OF THE SKIN.						
Urticaria ...	...	3	...	3	...	
Eczema ...	9	201	...	210	5	
Impetigo ...	...	8	...	8	...	
Boil ...	...	13	...	13	...	
Carbuncle ...	1	19	2	20	...	
Herpes ...	...	5	...	5	...	
Pemphigus ...	1	3	...	4	...	
Psoriasis ...	...	6	...	6	1	
Dermatitis exfoliativa ...	1	12	...	13	...	
Onychia ...	...	9	...	9	...	
Whitlow ...	...	12	...	12	1	
Ulcer ...	105	1,372	...	1,477	95	
Other Diseases ...	...	268	...	268	1	
INJURIES ...	53	1,499	94	1,552	42	
POISONS ...	1	3	2	4	...	
TUMOURS ...	1	1	...	2	...	
HANGING ...	...	1	2	1	...	
PARASITES.						
Round Worm ...	...	39	4	3	4	
Tape-worm ...	...	1	...	1	...	
Ankylostoma Duodenale ...	...	367	44	367	16	
Scabies ...	6	56	...	62	2	
Ringworm ...	1	15	...	16	...	
Dhoby Itch ...	...	1	...	1	...	
Others ...	24	2	...	26	...	
MISCELLANEOUS.						
Cardiac and Respiratory failure due to Chloroform ...	...	...	1	...	...	
OBSERVATIONS ...	8	234	...	242	14	
NO DISCOVERABLE DISEASE ...	3	140	...	143	...	
TOTAL ...	1,576	18,302	1,869	19,878	1,457	



## PENANG AND DINDINGS.

*Return of the Statistics of Population for the Year 1914.*

						Europeans.	Eurasians.	Malays.	Chinese.	Indians.	Other Nationalities.	TOTAL.
Number of inhabitants in 1914						1,022	1,572	36,620	80,503	24,226	1,675	145,618 P.
„ Births during the year 1914						18	5	5,342	1,923	1,605	22	8,915 D.
„ Deaths „ „ 1914						28	57	1,069	2,012	505	60	3,731 P.
„ Immigrants „ 1914						...	1	192	38	41	...	272 D.
„ Emigrants „ 1914						34	31	1,191	2,974	898	116	5,244 P.
Number of inhabitants in 1913						...	...	149	100	91	...	340 D.
Increase or Decrease						...	...	...	...	51,217	...	...
Increase or Decrease						10	15	343	755	227	16	1,366 P.
Increase or Decrease						1	...	307	111	92	1	512 D.
Increase or Decrease						...	...	...	...	...	...	...

*Meteorological Return for the Year 1914.*

			TEMPERATURE.					RAINFALL.		WINDS.		REMARKS.	
			Solar Maximum.	Minimum on Grass.	Shade Maximum.	Shade Minimum.	Range.	Mean.	Amount in Inches.	Degree of Humidity.	General Direction.		Average Force.
January	...	...	°F 148·4	°F 73·1	°F 90·1	°F 73·4	Not recorded.	°F 81·7	Inches. 1·37	% 72·6	Not recorded.	Not recorded.	
February	...	...	150·9	72·9	91·9	74·4		83·1	4·75	73·0			
March	...	...	150·0	73·2	92·5	74·1		83·3	3·24	71·0			
April	...	...	148·9	73·2	90·7	74·1		82·4	7·37	78 0			
May	...	...	145·4	74·1	91·2	74·5		82·8	7·36	75·0			
June	...	...	141·7	72·9	89·7	73·8		81·7	5·82	77·0			
July	...	...	135·0	73·0	89·4	74·0		81·7	5·48	77·0			
August	...	...	139·5	73·0	89·6	73·9		81·7	3·68	76·0			
September	...	...	135·0	72·6	87·8	73·0		80·4	19·04	82·0			
October	...	...	141·0	73·0	88·8	73·2		81·0	13·96	82·0			
November	...	...	141·9	73·5	88·6	73·2		80·9	11·31	81·0			
December	...	...	140·9	73·0	88·3	73·6		80·9	6·16	80·0			
Mean	...	...	143·2	73·1	89·8	73·7	...	81·8	89·54	77 0	...	...	

## PENANG.

*Return of Diseases and Deaths in 1914 at the following Institutions:—General Hospital; District Hospital; Venereal Ward; Quarantine Camp, Jelutong; Balik Pulau Hospital; Leper Hospital, Pulau Jerejak; Lumut Hospital; Female Leper Ward, Jelutong; Female Ward, District Hospital; and New Quarantine Station, Pulau Jerejak.*

DISEASES.	Remain- ing in Hospital at end of 1913.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1914.	REMARKS.
		Admis- sions.	Deaths.			
INFECTIVE DISEASES.						
Beri-beri	7	129	36	136	19	
Chicken-pox	5	31	...	36	...	
Cholera	...	12	8	12	...	
Dengue	2	3	...	5	...	
Diphtheria	...	1	1	1	...	
Dysentery	22	378	106	400	9	
Enteric Fever	2	13	7	15	1	
Enteritis	...	9	1	9	...	
Erysipelas	1	3	1	4	...	
Gonorrhœa	8	129	...	137	3	
"    Arthritis	9	194	...	203	10	
"    Ophthalmia	6	25	...	31	3	
"    Stricture	...	2	...	2	...	
"    Rheumatism	1	8	...	9	...	
"    Orchitis	...	1	...	1	...	
Leprosy	389	232	167	621	424	
Mycetoma	...	2	...	2	...	
Malaria (unclassified)	...	210	32	210	...	
"    Benign Tertian	8	558	13	566	33	
"    Quartan	...	28	2	28	...	
"    Malignant	12	462	79	474	13	
"    Chronic	3	126	15	129	7	
Measles	1	32	...	33	...	
Mumps	...	3	1	3	...	
Osteo-Myelitis	1	1	...	2	1	
Phagedæna	...	4	1	4	1	
Pneumonia	6	77	29	83	1	
Pyæmia	...	13	2	13	...	
Pyrexia of uncertain origin	10	217	...	227	2	
Rheumatism	12	121	...	133	4	
Septicæmia	...	1	1	1	...	
Small-pox	3	174	30	177	25	
Primary Syphilis	16	105	...	121	3	
Secondary "	40	292	1	332	33	
Tertiary "	4	47	2	51	5	
Syphilitic Arthritis	...	7	...	7	...	
Tetanus	...	2	2	2	...	
Tuberculosis	...	43	6	43	...	
Whooping cough	...	1	...	1	...	
Yaws	...	4	...	4	...	
INTOXICATIONS.						
Alcoholism	...	21	2	21	...	
Opium habit	...	7	1	7	...	
Pellagra	...	7	3	7	...	
DISEASES NOT INCLUDING IN THE TWO PRECEDING GROUPS.						
Anæmia	7	61	5	68	...	
Diabetes	1	2	...	3	...	
Myxœdema	...	1	1	1	...	
Osteo Arthritis	1	1	...	2	...	
Purpura	...	1	...	1	...	
Senile Decay	2	12	7	14	1	
Debility	1	21	1	22	3	
Inanition (Syncope)	...	3	2	3	...	
Carried forward	580	3,837	565	4,417	601	

## Return of Diseases and Deaths in 1914 at the Penang Hospitals.—Continued.

DISEASES.	Remain- ing in Hospital at end of 1913.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1914.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward...</i>	580	3,837	565	4,417	601	
CERTAIN MORBID CONDITIONS INCIDENT TO VARIOUS PARTS.						
Malformation ...	1	3	1	4	...	
New Growths, Non-Malignant	1	22	1	23	2	
„ Malignant ...	3	46	12	49	3	
DISEASES OF THE NERVOUS SYSTEM.						
Neuritis ...	3	17	...	20	2	
Meningitis ...	...	4	3	4	...	
Hæmorrhage (Spinal) ...	...	2	1	2	...	
Myelitis ...	...	6	3	6	1	
Progressive Muscular Atrophy ...	...	1	1	1	...	
Spastic Paraplegia ...	3	17	3	20	3	
Cerebral Hæmorrhage ...	...	2	2	2	...	
Functional derangement, Spinal Cord ...	...	1	...	1	...	
Hydrocephalus ...	...	1	1	1	...	
Paraplegia ...	4	14	...	18	2	
Hemiplegia ...	8	30	8	38	3	
Paralysis ...	1	9	2	10	...	
Uræmia ...	...	1	1	1	...	
Infantile Convulsions ...	...	3	3	3	...	
Epilepsy ...	...	7	2	7	...	
Tetanus ...	1	...	...	1	...	
Disseminated Sclerosis ...	...	1	...	1	...	
Encephalitis ...	...	1	1	1	...	
Locomotor Ataxia ...	2	8	...	10	3	
Cerebral Abscess ...	...	1	1	1	...	
Migraine ...	...	2	...	2	...	
Cephalgia ...	...	5	...	5	...	
Neuralgia ...	...	4	...	4	...	
Hysteria ...	...	2	...	2	...	
Sciatica ...	...	1	...	1	...	
Hiccough ...	...	1	...	1	...	
Neurasthenia ...	...	4	...	4	...	
Mania ...	...	5	2	5	1	
Melancholia ...	1	4	1	5	...	
Dementia ...	...	6	...	6	1	
DISEASES OF THE EYE.						
Conjunctivitis ...	...	50	...	50	1	
Trachoma ...	5	22	...	27	4	
Phlyctenular Conjunctivitis ...	...	1	...	1	...	
Pterygium ...	...	12	...	12	...	
Keratitis ...	1	3	...	4	1	
Pannus ...	...	1	...	1	...	
Ulcer Cornea ...	2	23	...	25	5	
Corneal Opacity ...	...	7	...	7	...	
Staphyloma ...	1	3	...	4	...	
Iritis ...	6	42	...	48	8	
Hypopyon ...	...	7	...	7	1	
Optic Atrophy ...	2	5	...	7	2	
Anæmia of Retina ...	1	...	...	1	1	
Cataract ...	3	16	...	19	2	
Panophthalmitis ...	...	4	...	4	...	
Amaurosis ...	17	15	...	32	16	
Hemianopsia ...	...	1	...	1	...	
Lacrymal Abscess ...	...	1	...	1	...	
Sty ...	...	1	...	1	...	
Abscess Eyelid ...	...	1	...	1	...	
Entropion ...	...	1	...	1	...	
Oedema Eyelid ...	...	1	...	1	...	
<i>Carried forward...</i>	646	4,285	614	4,931	663	



## Return of Diseases and Deaths in 1914 at the Penang Hospitals.—Continued.

DISEASES.	Remain- ing in Hospital at end of 1913.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1914.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward ...</i>	646	4,285	614	4,931	663	
DISEASES OF THE EAR.						
Inflammation Ext. Meatus ...	...	1	...	1	...	
Hæmatoma of Auricle ...	...	2	...	2	...	
Otitis Media ...	...	9	...	9	...	
DISEASES OF THE NOSE.						
Rhinitis ...	...	2	...	2	...	
Epistaxis ...	...	1	...	1	...	
DISEASES OF THE CIRCULATORY SYSTEM.						
Pericarditis ...	...	5	3	5	...	
Endocarditis ...	...	1	1	1	...	
Val. Disease Heart ...	7	55	21	62	3	
Myocardial Degeneration ...	...	1	1	1	...	
Myocarditis ...	...	5	...	5	...	
Fatty Degeneration Heart ...	...	2	...	2	1	
Hypertrophy Heart ...	...	1	...	1	...	
Dilatation Heart ...	1	1	...	2	...	
Arterial Sclerosis ...	...	2	1	2	1	
Aneurysm ...	1	7	1	8	1	
Cerebral Thrombosis ...	1	1	...	2	...	
Embolism ...	...	1	1	1	...	
Phlebitis ...	...	2	...	2	...	
Arterial Degeneration ...	...	1	...	1	...	
Thrombos Veins ...	...	3	...	3	1	
Arterial Nævus ...	...	1	...	1	...	
DISEASES OF THE RESPIRATORY SYSTEM.						
Asthma ...	4	32	1	36	...	
Laryngitis ...	...	9	...	9	...	
Trachitis ...	...	2	...	2	...	
Bronchitis ...	12	151	3	163	7	
Hæmoptysis ...	...	4	...	4	...	
Oedema of Lungs ...	...	1	1	1	...	
Broncho-pneumonia ...	...	11	2	11	1	
Gangrene Lungs ...	...	3	3	3	...	
Phthisis ...	15	324	173	339	30	
Emphysema ...	1	23	2	24	...	
Pleurisy ...	1	19	...	20	...	
Empyema ...	1	6	2	7	...	
DISEASES OF THE DIGESTIVE SYSTEM.						
Stomatitis ...	1	8	...	9	...	
Ulceration Lips ...	...	1	...	1	...	
Cancrum Oris ...	...	2	2	2	...	
Caries Tooth ...	...	1	...	1	...	
Inflammation Gums ...	...	1	...	1	...	
Gumboil ...	...	1	...	1	...	
Alveolar Suppuration ...	...	3	1	3	...	
Supp. Frontal Sinus ...	1	...	...	1	...	
Toothache ...	...	1	...	1	...	
Sorethroat ...	...	1	...	1	...	
Tonsillitis ...	...	6	...	6	...	
Elongated Uvula ...	...	1	...	1	...	
<i>Carried forward ...</i>	692	5,000	833	5,692	708	

## Return of Diseases and Deaths in 1914 at the Penang Hospitals.—Continued.

DISEASES.	Remain- ing in Hospital at end of 1913.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1914.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward ...</i>	692	5,000	833	5,692	708	
DISEASES OF THE DIGESTIVE SYSTEM.— <i>Continued.</i>						
Pharyngitis ...	2	12	...	14	...	
Stricture Oesophagus ...	...	1	1	1	...	
Gastritis ...	2	36	1	38	1	
Gastric Ulcer ...	...	2	1	2	...	
Adenitis ...	...	1	...	1	...	
Gastrectasis ...	...	3	...	3	...	
Dyspepsia ...	3	23	...	26	3	
Gastralgia ...	...	1	...	1	...	
Enteritis ...	1	26	13	27	...	
Appendicitis ...	...	4	1	4	...	
Colitis ...	2	20	1	22	2	
Gangrene Appendix ...	...	1	1	1	...	
Sprue ...	...	2	1	2	...	
Hernia Inguinal ...	2	26	1	28	...	
„ Strangulated ...	...	5	1	5	...	
„ Ventral ...	...	2	...	2	...	
Intestinal Obstruction ...	...	3	1	3	...	
Diarrhoea ...	11	280	56	291	20	
Constipation ...	...	46	...	46	2	
Colic ...	...	12	...	12	...	
Ischio-rectal Abscess ...	2	11	...	13	2	
„ Sinus ...	...	2	...	2	...	
Ulcer Rectum ...	...	1	...	1	...	
Fissure of Anus ...	...	3	...	3	...	
Fistula in Ano ...	3	17	<i>a</i> 1	20	1	
Recto Vaginal Fistula ...	1	...	...	1	...	
Hæmorrhoids Ext. ...	...	10	...	10	...	
„ Int. ...	...	2	...	2	...	
Hæmorrhage ...	...	1	...	1	...	
Cirrhosis Liver ...	1	35	10	36	4	
Stricture Rectum ...	...	1	...	1	...	
Prolapse Rectum ...	1	5	...	6	...	
Hepatitis ...	...	6	...	6	...	
Hepatic Abscess ...	2	3	1	5	...	
Acute Yellow Atrophy ...	...	1	1	1	...	
Jaundice ...	...	9	...	9	...	
Cholecystitis ...	...	1	...	1	...	
Peritonitis ...	...	3	...	3	1	
Ascites ...	1	1	...	2	...	
DISEASES OF THE LYMPHATIC SYSTEM.						
Splenitis ...	...	4	...	4	...	
Perisplenitis ...	...	3	...	3	...	
Bubo ...	12	169	...	181	22	
Adenitis ...	2	11	...	13	...	
Inflammation Gland Parotid ...	...	1	...	1	...	
Lymphangitis ...	1	4	...	5	...	
Elephantiasis Vulva ...	...	1	...	1	1	
Suppurative Adenitis ...	1	3	...	4	2	
DISEASES OF THE URINARY SYSTEM.						
Nephritis ...	4	66	14	70	3	
Bright's Disease ...	10	49	21	59	11	
Pyonephrosis ...	...	1	1	1	...	
Renal Calculus ...	...	1	...	1	...	
Nephrolithiasis ...	...	1	...	1	...	
Cystitis ...	...	13	...	13	...	
Vesical Calculus ...	...	4	...	4	...	
Retention of Urine ...	...	6	...	6	...	
Suppression of Urine ...	...	2	2	2	...	
<i>Carried forward ...</i>	756	5,957	963	6,713	783	

(a) Died of Enteritis.

## Return of Diseases and Deaths in 1914 at the Penang Hospitals.—Continued.

DISEASES.	Remain- ing in Hospital at end of 1913.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1914.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward ...</i>	756	5,957	963	6,713	783	
DISEASES OF THE GENERATIVE SYSTEM.						
(MALE ORGANS.)						
Urethritis ...	...	I	...	I	...	
Stricture Urethra ...	...	II	...	II	...	
Urethral Fistula ...	...	I	...	I	...	
Extravasation of Urine ...	...	I	I	I	...	
Enlargement of Prostate ...	...	I	...	I	I	
Prostatitis ...	...	I	...	I	...	
Phimosis ...	2	96	...	98	8	
Paraphimosis ...	...	25	...	25	I	
Balanitis ...	...	I	...	I	...	
Ulcer Penis ...	10	32	...	42	...	
Gangrene Penis ...	I	2	...	3	...	
Soft Chancre ...	6	99	...	105	5	
Condyloma Anus ...	...	2	...	2	...	
Abscess Scrotum ...	...	6	...	6	...	
Sloughing Scrotum ...	I	6	...	7	I	
Ulcer Scrotum ...	...	I	...	I	...	
Varicocele ...	...	3	...	3	...	
Hæmatocele ...	...	2	...	2	...	
Hydrocele ...	I	23	...	24	...	
Orchitis ...	2	9	...	II	...	
Epididymitis ...	...	4	...	4	...	
Hernia Testis ...	2	7	...	9	I	
(FEMALE ORGANS.)						
Öophoritis ...	...	I	...	I	...	
Metritis ...	...	37	...	37	I	
Endometritis ...	...	5	...	5	...	
Granular Erosion Cervix ...	2	37	...	39	I	
Subinvolution c Retroversion	...	2	...	2	...	
Retroversion and Flexion	...	...	...	...	...	
Uterus ...	...	3	...	3	I	
Vaginitis ...	...	6	...	6	...	
Inflammation Labia ...	...	3	...	3	...	
Chancroids ...	I	18	...	19	2	
Condyloma ...	...	4	...	4	I	
Leucorrhœa ...	I	29	...	30	...	
Dysmenorrhœa ...	...	I	...	I	...	
AFFECTIONS CONNECTED WITH PREGNANCY.						
Pregnancy ...	...	II	...	II	...	
Abortion ...	...	I	...	I	...	
Parturition ...	...	23	I	23	I	
Ectopic Gestation (Tubal)...	...	I	...	I	...	
Labour Pains ...	...	I	...	I	...	
AFFECTIONS CONNECTED WITH PARTURITION.						
Ulcer Perineum ...	...	2	...	2	I	
Still Birth ...	...	2	2	2	...	
Premature birth ...	...	2	I	2	...	
<i>Carried forward ...</i>	785	6,480	968	7,265	808	



## Return of Diseases and Deaths in 1914 at the Penang Hospitals.—Continued.

DISEASES.	Remain- ing in Hospital at end of 1913.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1914.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward</i> ...	785	6,480	968	7,265	808	
AFFECTIONS CONSEQUENT ON PARTURITION.						
Puerperal Septic Intoxication ...	...	5	2	5	...	
DISEASES OF THE FEMALE BREAST.						
Mammary Abscess ...	1	2	1	3	...	
DISEASES OF THE ORGANS OF LOCOMO- TION.						
Traumatic Septic Periostitis ...	...	4	...	4	...	
Caries ...	...	7	<i>a</i> 1	7	...	
Necrosis ...	...	20	...	20	2	
Ununited Fracture ...	1	3	...	4	...	
Arthritis ...	2	29	<i>b</i> 1	31	2	
Synovitis ...	6	36	...	42	3	
Fibrositis ...	...	1	...	1	...	
Hyphosis ...	...	2	...	2	...	
Myositis ...	...	2	...	2	...	
Myalgia ...	...	1	...	1	...	
Lumbago ...	2	12	...	14	1	
Bursitis ...	...	1	...	1	...	
DISEASES OF THE CONNECTIVE TISSUE.						
Cellulitis ...	3	53	7	56	1	
Abscess ...	8	189	4	197	10	
Sinus ...	2	30	...	32	3	
Oedema of Legs ...	...	1	...	1	...	
Gangrene ...	...	6	2	6	...	
Elephantiasis Scrotum ...	...	1	...	1	...	
„ Leg ...	1	2	...	3	...	
DISEASES OF THE SKIN.						
Urticaria ...	...	1	...	1	...	
Eczema ...	2	37	...	39	1	
Impetigo ...	...	20	...	20	...	
Furuncle ...	...	12	...	12	...	
Carbuncle ...	...	2	1	2	...	
Gangrene Skin ...	...	5	...	5	...	
Herpes ...	...	3	...	3	1	
Dermatitis ...	...	5	...	5	...	
Lichen ...	...	2	...	2	...	
Warts ...	...	1	...	1	1	
Lupus ...	...	1	...	1	...	
Sebaceous Cyst ...	...	1	...	1	...	
Acne ...	...	1	...	1	...	
Onychia ...	...	1	...	1	...	
Whitlow ...	...	2	...	2	...	
Ulcer ...	39	870	<i>c</i> 2	909	69	
Ulcer Keloid ...	...	1	...	1	...	
General Injuries ...	2	89	1	91	4	
Local „ ...	20	598	28	618	30	
<i>Carried forward</i> ...	874	8,539	1,018	9,413	936	

(a) Potts c Abscess. (b) Suppuration. (c) 1 Sapræmia. 1 Suicide Hanging.

*Return of Diseases and Deaths in 1914 at the Penang Hospitals.—Concluded.*

DISEASES.	Remain- ing in Hospital at end of 1913.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1914.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward</i> ...	874	8,539	1,018	9,413	936	
POISONS.						
Opium ...	...	2	...	2	...	
Trional Poisoning ...	...	1	...	1	...	
Mercurial Stomatitis ...	...	1	...	1	...	
Ptomaine ...	...	1	...	1	...	
Sandfly bite ...	...	1	...	1	...	
PARASITES.						
Ankylostomiasis ...	12	142	37	154	13	
Scabies ...	2	72	...	74	5	
Filariasis ...	...	1	...	1	...	
Ringworm ...	...	5	...	5	...	
Ascaris Lumbricoides ...	...	9	1	9	1	
Guinea-Worm ...	...	3	...	3	...	
MISCELLANEOUS.						
Monkey bite ...	...	1	...	1	...	
Pig bite ...	1	...	...	1	...	
Malingering ...	...	8	...	8	...	
No Appreciable Disease ...	1	70	...	71	1	
Observation ...	1	12	...	13	...	
Observation for Insanity ...	8	120	...	128	4	
Isolated Contacts ...	...	312	...	312	36	
OPERATIONS.						
Amputation Leg ...	2	14	...	16	4	
Long Uvula ...	...	1	...	1	...	
GRAND TOTAL ...	901	9,315	1,056	10,216	1,000	

## PROVINCE WELLESLEY.

*Return of the Statistics of Population for the Year 1914.*

						Europeans.	Eurasians.	Malays.	Chinese.	Indians.	Other Nationalities.	TOTAL.
Number of inhabitants in 1914	...	...	...	...	...	257	204	75,941	33,083	22,921	996	133,402
„ Births during the year 1914	...	...	...	...	...	7	4	2,724	882	744	10	4,371
„ Deaths „ „ 1914	...	...	...	...	...	2	1	1,890	1,027	812	13	3,745
„ Immigrants „ 1914	...	...	...	...	...	}	No data available.					
„ Emigrants „ 1914	...	...	...	...	...							
Number of inhabitants in 1913	...	...	...	...	...	254	202	75,092	32,713	22,664	985	131,910
Increase or Decrease	...	...	...	...	...	3	2	849	370	257	11	1,492
	...	...	...	...	...	...	...	...	...	...	...	...

*Meteorological Return for the Year 1914.*

			TEMPERATURE.				RAINFALL.		WINDS.		REMARKS	
			Solar Maximum.	Minimum on Grass.	Shade Maximum.	Shade Minimum.	Range.	Mean.	Amount in Inches.	Degree of Humidity.		General Direction.
			°F	°F	°F	°F	°F	°F	Inches.	%		
January	...	...	70.0	91.8	72.4	19.4	82.1	1.85	70.0	N.W.	4	
February	...	...	71.5	93.5	73.4	20.1	83.4	2.28	74.0	S.W.	4	
March	...	...	72.4	94.1	73.9	20.2	80.0	2.61	73.0	N.N.W.	6	
April	...	...	72.9	90.8	73.8	17.0	82.3	13.59	80.0	S.S.W.	5	
May	...	...	74.0	92.6	75.3	17.3	83.9	8.44	74.0	N.N.W.	5	
June	...	...	73.4	91.7	74.0	17.7	82.8	9.25	74.0	S.W.	4	
July	...	...	72.7	92.3	73.6	18.7	82.9	2.73	75.0	S.W.	6	
August	...	...	72.3	91.9	73.4	18.5	82.6	2.71	72.0	...	...	
September	...	...	72.5	91.3	72.1	19.2	81.7	12.84	76.0	...	...	
October	...	...	73.2	90.8	72.6	18.2	81.7	28.90	72.0	N.W.	8	
November	...	...	72.6	90.4	72.5	17.9	81.4	21.98	82.0	N.W.	4	
December	...	...	73.1	90.6	73.1	17.5	81.8	10.34	79.0	N.	6	
Mean	...	...	72.5	91.8	73.3	18.5	82.5	Total 117.72	75.0	N.W.	5	



## PROVINCE WELLESLEY.

*Return of Diseases and Deaths in 1914 at the following Institutions:—  
Butterworth, Bukit Mertajam and Sungai Bakap Hospitals.*

DISEASES.	Remain- ing in Hospital at end of 1913.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1914.	REMARKS.
		Admis- sions.	Deaths.			
INFECTIVE DISEASES.						
Beri-beri ...	7	11	...	18	3	
Chicken-pox ...	...	1	...	1	...	
Cholera ...	...	1	a 1	1	...	
Dysentery ...	1	127	b 40	128	...	
Enteric fever ...	...	7	c 4	7	...	
Gonorrhœa ...	6	60	...	66	2	
Gonorrhœal Ophthalmia ...	...	2	...	2	...	
„ Orchitis ...	...	2	...	2	...	
„ Cystitis ...	...	1	...	1	...	
„ Arthritis ...	1	17	...	18	2	
Leprosy ...	1	17	a 2	18	...	
Mycetoma ...	...	1	...	1	...	
Malarial Fever, B. Tertian ...	9	145	...	154	1	
„ „ Quartan ...	...	6	...	6	...	
Malarial Fever, Malignant Tertian ...	9	188	d 25	197	1	
Malarial Cachexia ...	3	34	c 6	37	...	
Measles ...	2	14	...	16	...	
Mumps ...	...	1	...	1	1	
Osteo Myelitis ...	...	1	...	1	...	
Phagedæna ...	5	31	e 4	36	2	
Pneumonia ...	...	28	f 9	28	...	
Pyæmia ...	...	1	a 1	1	...	
Pyrexia ...	3	120	...	123	1	
Rheumatism ...	1	32	...	33	1	
Septicæmia ...	...	2	a 2	2	...	
Small-pox ...	...	2	1	2	...	
Syphilis, Primary ...	1	24	...	25	2	
„ „ Secondary ...	7	161	1	168	16	
„ „ Tertiary ...	3	33	4	36	3	
Syphilitic Iritis ...	...	1	...	1	...	
„ „ Condyloma ...	...	2	...	2	...	
„ „ Osteitis ...	...	1	...	1	...	
„ „ Arthritis ...	...	5	1	5	...	
„ „ Periostitis ...	...	5	...	5	1	
„ „ Necrosis bone ...	1	10	...	11	...	
Tetanus ...	...	1	1	1	...	
Tuberculosis ...	2	8	g 3	10	...	
Yaws ...	...	6	...	6	...	
INTOXICATIONS.						
Alcoholism ...	...	8	a 1	8	...	
Pellagra ...	...	1	...	1	...	
GENERAL DISEASES NOT INCLUDED IN THE TWO PRECEDING GROUPS.						
Anæmia ...	...	4	a 2	4	...	
Diabetes ...	1	...	...	1	...	
Hodgkin's Disease ...	...	2	1	2	...	
CERTAIN MORBID CON- DITIONS INCIDENT TO VARIOUS PARTS.						
Malformations ...	...	1	...	1	...	
New-growth, Non-Malignant ...	1	6	...	7	...	
„ „ Malignant ...	1	11	c 5	12	...	
Cyst Ovarian ...	...	1	...	1	...	
Carried forward ...	65	1,143	114	1,208	36	

(*a*) 1 died within 48 hours. (*b*) 9 within 48 hours. (*c*) 2 within 48 hours. (*d*) 13 within 48 hours.  
(*e*) Died of Septicæmia. (*f*) 3 within 48 hours. (*g*) Died of Tuberculous Peritonitis.

*Return of Diseases and Deaths in 1914 at the Province Wellesley  
Hospitals.—Continued.*

DISEASES.	Remain- ing in Hospital at end of 1913.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1914.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward ...</i>	65	1,143	114	1,208	36	
<b>DISEASES OF THE NERVOUS SYSTEM.</b>						
Multiple Neuritis ...	1	9	...	10	...	
Myelitis ...	1	4	1	5	1	
Progressive Muscular Atrophy ...	1	...	1	1	...	
Spastic Paraplegia ...	2	4	1	6	2	
Locomotor Ataxy ...	...	3	2	3	...	
Meningitis ...	...	5	<i>a</i> 4	5	...	
Apoplexy ...	...	1	<i>a</i> 1	1	...	
Hemiplegia ...	3	14	2	17	3	
Paralysis (Facial) ...	...	2	...	2	...	
" Agitans ...	...	1	...	1	...	
Epilepsy ...	...	5	...	5	...	
Cephalalgia ...	...	10	...	10	...	
Neuralgia ...	...	6	...	6	...	
Hysteria ...	...	1	...	1	...	
<b>DISEASES OF THE EYE.</b>						
Conjunctivitis ...	...	5	...	5	...	
" Granular ...	...	1	...	1	...	
Keratitis ...	...	1	...	1	...	
Ulcer Cornea ...	...	8	...	8	...	
Opacity Cornea ...	1	...	...	1	1	
Staphyloma ...	...	1	...	1	...	
Iritis ...	1	1	...	<i>b</i> 2	...	
Atrophy ...	...	1	...	1	...	
Hypopyon ...	...	4	...	4	...	
Glaucoma ...	...	1	...	1	1	
Cataract ...	...	4	...	4	1	
<b>DISEASES OF THE EAR.</b>						
Otitis Media ...	...	3	...	3	...	
<b>DISEASES OF THE NOSE.</b>						
Ozæna ...	...	2	...	2	...	
<b>DISEASES OF THE CIRCULATORY SYSTEM.</b>						
Endocarditis ...	...	1	...	1	...	
Valvular Disease, Heart ...	2	16	<i>c</i> 6	18	2	
Dilatation of Heart ...	...	1	<i>a</i> 1	1	...	
Thrombosis ...	...	1	...	1	...	
Varix ...	...	2	...	2	...	
<b>DISEASES OF THE RESPIRATORY SYSTEM.</b>						
Asthma ...	...	16	...	16	...	
Laryngitis ...	...	2	...	2	...	
Bronchitis ...	4	64	...	68	1	
Broncho-Pneumonia ...	...	1	1	1	...	
Gangrene Lung ...	...	1	1	1	...	
Phthisis ...	7	65	<i>d</i> 35	72	3	
Pleurisy ...	...	5	...	5	...	
Empyema ...	...	5	...	5	...	
<i>Carried forward ...</i>	88	1,420	170	1,508	51	

(a) 1 within 48 hours.

(b) Non-specific.

(c) 2 within 48 hours.

(d) 3 within 48 hours.

*Return of Diseases and Deaths in 1914 at the Province Wellesley  
Hospitals.—Continued.*

DISEASES.	Remain- ing in Hospital at end of 1913.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1914.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward ...</i>	88	1,420	170	1,508	51	
<b>DISEASES OF THE DIGESTIVE SYSTEM.</b>						
Stomatitis ...	...	1	...	1	...	
Caries Tooth ...	...	4	...	4	...	
Gum-boil ...	...	3	...	3	...	
Alveolar Abscess ...	1	2	...	3	...	
Pharyngitis ...	...	6	...	6	...	
Gastritis ...	1	26	...	27	...	
Dyspepsia ...	...	12	...	12	...	
Gastralgia ...	...	2	...	2	...	
Enteritis ...	1	41	<i>a</i> 11	42	1	
Hernia, Inguinal ...	...	3	...	3	1	
Diarrhoea ...	1	22	<i>b</i> 5	23	...	
Constipation ...	...	6	...	6	...	
Colic (Intestinal) ...	...	28	...	28	...	
Ischio-rectal Abscess ...	...	4	...	4	...	
Fistula in Ano ...	...	3	...	3	...	
Hæmorrhoids (external) ...	...	5	...	5	...	
Hepatitis ...	...	6	2	6	...	
Cirrhosis of Liver ...	2	18	7	20	3	
Jaundice ...	...	2	1	2	...	
Peritonitis ...	...	1	<i>b</i> 1	1	...	
<b>DISEASES OF THE LYMPHATIC SYSTEM.</b>						
Lymphadenitis ...	...	6	...	6	...	
Suppuration ...	4	43	...	47	...	
Lymphangitis ...	...	1	...	1	...	
<b>DISEASES OF THE URINARY SYSTEM.</b>						
Bright's Disease ...	2	16	1	18	2	
Chronic Nephritis ...	...	4	4	4	...	
Cystitis ...	...	2	<i>b</i> 1	2	...	
Sacculation of Bladder ...	...	1	...	1	...	
Urinary Calculus ...	...	2	...	2	...	
<b>DISEASES OF THE GENERATIVE SYSTEM.</b>						
(MALE ORGANS.)						
Urethral Abscess ...	...	2	...	2	...	
Stricture Urethra ...	...	2	...	2	...	
Hypertrophy Prostate ...	...	2	<i>b</i> 1	2	...	
Phimosis ...	...	2	...	2	...	
Paraphimosis ...	...	1	...	1	...	
Chancroids ...	5	107	...	112	2	
Condyloma ...	1	...	...	1	...	
Sloughing Scrotum ...	...	2	<i>c</i> 1	2	...	
Hydrocele ...	...	9	...	9	...	
Orchitis ...	...	8	...	8	...	
Abscess Testis ...	...	1	...	1	...	
Hernia „ ...	...	2	...	2	...	
(FEMALE ORGANS.)						
Endometritis ...	...	3	...	3	...	
Vesico-Vaginal Fistula ...	...	2	...	2	...	
Menorrhagia ...	...	1	...	1	...	
<i>Carried forward ...</i>	106	1,834	205	1,940	60	

(a) 5 within 48 hours.

(b) 1 within 48 hours.

(c) 1 within 48 hours, Died of Septicæmia.



*Return of Diseases and Deaths in 1914 at the Province Wellesley  
Hospitals.—Continued.*

DISEASES.	Remain- ing in Hospital at end of 1913.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1914.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward ...</i>	106	1,834	205	1,940	60	
AFFECTIONS CONNECTED WITH PREGNANCY.						
Miscarriage ...	...	2	...	2	...	
Plural Births ...	...	1	...	1	...	
Retention of Placenta ...	...	1	...	1	...	
AFFECTIONS CONSEQUENT ON PARTURITION.						
Puerperal Sapræmia ...	1	2	2	3	...	
DISEASES OF THE ORGANS OF LOCOMOTION.						
Osteitis ...	1	2	...	3	...	
Periostitis ...	...	5	...	5	...	
Necrosis ...	1	1	...	2	...	
Arthritis ...	1	9	...	10	...	
Synovitis ...	1	10	...	11	2	
Pott's Disease of Spine ...	...	1	...	1	...	
Psoas Abscess ...	...	1	...	1	1	
Myositis ...	...	1	...	1	...	
Myalgia ...	...	14	...	14	1	
DISEASES OF THE CONNECTIVE TISSUE.						
Cellulitis ...	2	32	...	34	3	
Abscess ...	4	54	<i>a</i> 1	58	1	
Elephantiasis ...	...	2	...	2	...	
DISEASES OF THE SKIN.						
Eczema ...	2	22	...	24	...	
Impetigo ...	...	2	...	2	...	
Boil ...	...	12	...	12	...	
Carbuncle ...	...	1	...	1	...	
Herpes ...	...	4	...	4	...	
" Zoster ...	...	1	...	1	...	
Pityriasis Rubra ...	...	1	...	1	...	
Whitlow ...	...	2	...	2	...	
Ulcer ...	...	5	...	5	2	
INJURIES ...	21	474	<i>b</i> 7	495	11	
<i>Carried forward ...</i>	140	2,496	215	2,636	81	

(a) Died of Tuberculosis. (b) 4 within 48 hours.

*Return of Diseases and Deaths in 1914 at the Province Wellesley Hospitals.—Concluded.*

DISEASES.	Remain- ing in Hospital at end of 1913.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1914.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward ...</i>	140	2,496	215	2,636	81	
POISONED WOUNDS.						
Stinging Insects ...	...	1	...	1	...	
Crocodile-bite ...	...	1	...	1	...	
Dog-bite ...	...	4	...	4	...	
Monkey-bite ...	...	1	...	1	...	
Centipede-bite ...	...	2	...	2	...	
PARASITES.						
Ankylostomiasis ...	14	352	<i>a</i> 56	366	32	
Ascaris Lumbricoides ...	...	8	<i>b</i> 1	8	...	
Ringworms ...	...	2	...	2	...	
Scabies ...	2	43	...	45	...	
Guinea-worm ...	...	1	...	1	...	
Tinea Versicolor ...	...	1	...	1	...	
„ Tricophytina ...	...	1	...	1	...	
MISCELLANEOUS.						
Observation ...	...	39	...	39	...	
Observation for Insanity ...	3	7	...	10	...	
No Appreciable Disease ...	...	16	...	16	...	
Pregnancy ...	...	7	...	7	...	
GRAND TOTAL ...	159	2,982	272	3,141	113	

(a) 5 within 48 hours.      (b) 1 within 48 hours.

## MALACCA.

*Return of the Statistics of Population for the Year 1914.*

	Europeans.	Eurasians.	Malays.	Chinese.	Indians.	Other Nationalities.	TOTAL.
Number of inhabitants in 1913 ...	320	1,622	83,083	37,371	7,907	452	130,755
„ Births during the year 1914	13	58	3,507	912	137	114	4,741
„ Deaths „ „ 1914	3	56	3,063	1,466	501	87	5,176
„ Immigrants „ „ 1914	}	No data available.					
„ Emigrants „ „ 1914							
Number of inhabitants in 1914 ...	329	1,665	85,288	38,362	8,117	464	134,225
Increase ... ..	9	43	2,205	991	210	12	3,470
Decrease ... ..	...	...	...	...	...	...	...

*Meteorological Return for the Year 1914.*

	TEMPERATURE.						RAINFALL.		WINDS.		REMARKS.
	Solar Maximum.	Minimum on Grass.	Shade Maximum.	Shade Minimum.	Range.	Mean.	Amount in Inches.	Degree of Humidity.	General Direction.	Average Force.	
	°F	°F	°F	°F	°F	°F	Ins.	%			
January ... ..	140·2	...	86·1	70·4	15·7	80·8	5·19	87·0	N.	...	
February ... ..	158·0	...	90·3	71·8	18·5	83·5	·74	81·0	N.	...	
March ... ..	157·7	...	90·6	71·9	18·7	83·4	3·67	84·0	N.	...	
April ... ..	154·8	...	88·8	71·8	17·0	81·9	12·57	86·0	N.	...	
May ... ..	152·1	...	89·9	72·6	17·3	84·4	1·99	85·0	N.	...	
June ... ..	144·1	...	87·0	72·0	15·0	83·2	12·52	86·0	N.W.	...	
July ... ..	145·2	...	86·3	71·6	14·7	82·5	7·04	86·0	N.	...	
August ... ..	143·8	...	86·8	71·3	15·5	82·1	8·86	86·0	N.	...	
September ... ..	148·6	...	87·0	71·1	15·9	82·6	7·35	88·0	N.	...	
October ... ..	150·2	...	87·5	71·7	15·8	83·0	3·62	86·0	N.	...	
November ... ..	153·7	...	88·7	72·0	16·7	83·9	10·69	84·0	N.	...	
December ... ..	151·9	...	87·5	71·2	16·3	82·5	9·93	87·0	N.	...	
Mean ... ..	150·	..	88·	71·6	16·4	82·8	84·17	85·0	N.	...	



## MALACCA.

*Return of Diseases and Deaths in 1914 at the following Institutions:—General, Pauper, Contagious Disease, Leper, Prison, Alor Gajah and Jasin Hospitals.*

DISEASES.	Remain- ing in Hospital at end of 1913.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1914.	REMARKS.
		Admis- sions.	Deaths.			
INFECTIVE DISEASES.						
Beri-beri ...	55	417	46	472	46	
Chicken-pox ...	...	4	...	4	...	
Cholera ...	...	1	1	1	...	
Dysentery ...	18	184	84	202	7	
Enteric Fever ...	...	1	1	1	...	
Erysipelas ...	...	5	...	5	...	
Gangrene ...	...	5	5	5	...	
Gonorrhœa ...	13	77	...	90	3	
Gonorrhœal Rheumatism ...	1	16	...	17	2	
"    Arthritis ...	...	2	...	2	...	
Influenza ...	...	1	...	1	...	
Leprosy ...	1	16	...	17	...	
Malaria ...	...	19	1	19	1	
Malaria-fever, Benign T. ...	1	123	2	124	1	
"    Quartan ...	1	12	2	13	...	
"    Malignant ...	70	1,760	155	1,830	52	
"    Chronic ...	8	198	12	206	8	
Malarial Neuritis ...	1	49	...	50	1	
Measles ...	...	23	...	23	...	
Mumps ...	...	1	...	1	...	
Phagedæna ...	...	2	1	2	...	
Pneumonia ...	4	109	49	113	1	
Pyæmia ...	...	11	...	11	2	
Rheumatism ...	5	65	...	70	4	
Septicæmia ...	...	2	2	2	...	
Small-pox ...	...	2	...	2	...	
Syphilis ...	12	131	2	143	9	
Tetanus ...	...	1	1	1	...	
Tuberculosis ...	1	5	...	6	...	
INTOXICATION.						
Alcoholism ...	...	1	...	1	...	
Delerium Tremens ...	...	1	...	1	...	
Opium Habit ...	...	3	...	3	...	
GENERAL DISEASES NOT INCLUDED IN THE TWO PRECEDING GROUPS.						
Anæmia ...	...	37	7	37	...	
Debility ...	...	1	...	1	...	
Diabetes Mellitus ...	...	2	...	2	...	
Osteo Arthritis ...	...	1	1	1	...	
CERTAIN MORBID CONDITIONS INCIDENT TO VARIOUS PARTS.						
Malformation ...	...	1	...	1	...	
New Growth, Non-Malignant ...	...	8	...	8	1	
"    Malignant ...	...	1	...	1	...	
DISEASES OF THE NERVOUS SYSTEM.						
Neuritis ...	2	25	...	27	...	
"    Peripheral ...	...	3	...	3	1	
"    Alcoholic ...	...	1	...	1	...	
Myelitis ...	2	5	...	7	1	
Locomotor Ataxia ...	...	1	...	1	1	
Carried forward ...	195	3,333	372	3,528	141	

## Return of Diseases and Deaths in 1914 at the Malacca Hospitals.—Continued.

DISEASES.	Remain- ing in Hospital at end of 1913.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1914.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward ...</i>	195	3,333	372	3,528	141	
DISEASES OF THE NERVOUS SYSTEM.— <i>Continued.</i>						
Diss. Sclerosis ...	...	2	...	2	1	
Abscess Brain ...	...	1	1	1	...	
Hydrocephalus ...	...	1	1	1	...	
Apoplexy ...	...	1	1	1	...	
Paraplegia ...	1	3	...	4	1	
Hemiplegia ...	4	8	...	12	...	
Epilepsy ...	...	1	...	1	...	
Headache ...	...	3	...	3	...	
Neuralgia Sciatic Nerve ...	...	2	...	2	...	
DISEASES OF THE EYE.						
Conjunctivitis ...	3	14	...	17	...	
"    Purulent ...	...	4	...	4	...	
Pterygium ...	...	1	...	1	...	
Keratitis ...	...	2	...	2	...	
Ulcer Cornea ...	3	32	...	35	1	
Opacity ...	3	4	...	7	...	
Staphyloma ...	...	1	...	1	...	
Iritis ...	...	2	...	2	...	
Hypopyon ...	...	1	...	1	...	
Cataract ...	...	1	...	1	...	
Shrunken Eye-ball ...	2	...	...	2	1	
Nyctalopia ...	...	2	...	2	...	
Dacryo Cystitis ...	...	1	...	1	...	
Blepharitis ...	1	1	...	2	...	
DISEASES OF THE EAR.						
Inflammation Ear Ext. ...	...	6	...	6	...	
"    "    Mid. ...	1	2	...	3	...	
DISEASES OF THE NOSE.						
Coryza ...	...	3	...	3	...	
Ulcer ...	...	1	...	1	...	
Abscess ...	...	1	...	1	...	
DISEASES OF THE CIRCULATORY SYSTEM.						
Mitral Incompetence ...	...	2	...	2	...	
"    Regurgitation ...	...	4	1	4	...	
Fatty Degeneration ...	...	1	1	1	...	
Aneurysm Aorta ...	...	1	1	1	...	
Phlebitis ...	...	2	...	2	...	
Varicose Veins ...	...	1	...	1	...	
DISEASES OF THE RESPIRATORY SYSTEM.						
Asthma ...	...	24	...	24	2	
Laryngitis ...	...	1	...	1	...	
Bronchitis ...	3	69	...	72	...	
Bronchial Catarrh ...	...	2	...	2	...	
Congestion Lung ...	...	4	...	4	2	
Broncho-pneumonia ...	...	2	1	2	...	
Gangrene ...	...	3	3	3	...	
Phthisis ...	9	131	64	140	14	
Emphysema ...	...	1	1	1	...	
Pleurisy ...	...	9	...	9	1	
Empyema ...	...	5	1	5	...	
<i>Carried forward ...</i>	225	3,696	448	3,921	164	

## Return of Diseases and Deaths in 1914 at the Malacca Hospitals.—Continued.

DISEASES.	Remain- ing in Hospital at end of 1913.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1914.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward...</i>	225	3,696	448	3,921	164	
DISEASES OF THE DIGESTIVE SYSTEM.						
Caries Tooth	...	1	...	1	...	
Gum-boil	...	2	...	2	...	
Pyorrhœa Alveolaris	...	1	...	2	...	
Tonsillitis Septic	...	1	1	1	...	
Abscess Tonsil	...	1	...	1	...	
Pharyngitis	...	17	...	21	...	
Gastritis	...	8	1	9	1	
Dilatation Stomach	...	2	1	2	...	
Dyspepsia	...	7	...	7	1	
Gastralgia	...	1	...	1	...	
Enteritis	...	8	2	9	...	
Colitis	...	9	...	11	...	
Sprue	...	1	...	1	...	
Hernia Inguinal	...	6	...	7	...	
Diarrhœa	...	155	62	160	6	
Constipation	...	3	...	3	1	
Colic Intestinal	...	11	...	12	...	
Ischio Rectal Abscess	...	5	...	5	...	
Ulcer Anus	...	1	...	1	...	
Fistula in Ano	...	1	...	1	...	
Hæmorrhoids	...	6	...	6	...	
Abscess Liver	...	2	2	2	...	
Cirrhosis of Liver	...	29	11	32	4	
Jaundice	...	2	...	2	...	
Cholangitis	...	1	...	1	...	
Peritonitis	...	1	1	1	...	
DISEASES OF THE LYMPHATIC SYSTEM.						
Splenitis	...	2	...	2	...	
Lymphadenitis	...	12	...	12	1	
Bubo	...	19	...	21	1	
DISEASES OF THE URINARY SYSTEM.						
Bright's Disease	...	30	9	30	1	
Nephritis Chronic	...	58	14	70	5	
Cystitis	...	5	...	5	...	
Calculus	...	3	...	3	...	
DISEASES OF THE GENERATIVE SYSTEM.						
(MALE.)						
Urethritis	...	1	...	1	...	
Stricture Urethra	...	1	...	1	...	
Enlarged Prostate	...	2	...	2	...	
Phimosis	...	3	...	3	...	
Paraphimosis	...	1	...	1	...	
Balanitis	...	3	...	4	1	
Ulcer Penis	...	5	...	5	...	
„ Glans Penis	...	1	...	1	...	
Cancer Penis	...	1	...	1	...	
Chancroid	...	33	...	34	...	
Abscess Scrotum	...	3	1	3	...	
Ulcer „	...	2	...	2	...	
Sloughing „	...	3	2	3	...	
Hæmatocele	...	1	...	1	...	
Orchitis	...	2	...	2	...	
Hydrocele	...	4	...	4	...	
<i>Carried forward ...</i>	260	4,173	555	4,433	186	



## Return of Diseases and Deaths in 1914 at the Malacca Hospitals.—Continued.

DISEASES.	Remain- ing in Hospital at end of 1913.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1914.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward ...</i>	260	4,173	555	4,433	186	
DISEASES OF THE GENERATIVE SYSTEM. —Continued.						
(FEMALE.)						
Ulcer Vulva ...	1	...	...	1	...	
„ Vagina ...	...	3	...	3	...	
Abscess Labia ...	...	1	...	1	...	
Chancroid ...	...	5	...	5	1	
Condylomata Vulva ...	...	2	...	2	...	
Amenorrhœa ...	...	1	...	1	...	
Dysmenorrhœa ...	...	1	...	1	...	
Menorrhagia ...	1	...	...	1	...	
AFFECTIONS CONNECTED WITH PARTURITION.						
Parturition ...	2	...	...	2	...	
Retention Placenta ...	...	1	1	1	...	
AFFECTIONS CONSEQUENT ON PARTURITION.						
Puerperal Fever ...	...	1	...	1	1	
Tetanus ...	...	1	...	1	...	
DISEASES OF THE ORGANS OF LOCO- MOTIVE SYSTEM.						
Periostitis ...	...	1	...	1	...	
Necrosis ...	...	3	...	3	1	
Arthritis ...	...	1	...	1	...	
Synovitis ...	1	7	1	8	...	
Ankylosis ...	...	1	...	1	...	
Caries Spine ...	...	3	...	3	...	
Myositis ...	1	...	...	1	...	
Myalgia ...	1	8	...	9	...	
Lumbago ...	1	4	...	5	...	
DISEASES OF THE CONNECTIVE TISSUE.						
Cellulitis ...	1	29	4	30	1	
Abscess ...	7	86	...	93	4	
Elephantiasis ...	...	1	...	1	...	
DISEASES OF THE SKIN.						
Ulcers ...	48	820	...	868	46	
Urticaria ...	...	1	...	1	...	
Eczema ...	3	40	...	43	...	
Boils ...	...	5	...	5	...	
Carbuncles ...	1	7	...	8	...	
Herpes zoster ...	...	3	...	3	...	
Warts ...	...	1	...	1	...	
DISEASES OF THE NAIL.						
Onychia ...	...	3	...	3	...	
Whitlow ...	...	2	...	2	...	
PARASITES.						
Ascaris Lumbricoides ...	...	4	...	4	1	
Ankylostomiasis ...	7	216	34	223	9	
<i>Carried forward ...</i>	335	5,435	595	5,770	250	

## Return of Diseases and Deaths in 1914 at the Malacca Hospitals.—Concluded.

DISEASES.	Remain- ing in Hospital at end of 1913.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1914.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward ...</i>	335	5,435	595	5,770	250	
PARASITES.—Continued.						
Ringworm ...	...	6	...	6	...	
Scabies ...	5	89	...	94	2	
Tinea Versicolor ...	...	1	...	1	...	
Filaria ...	...	1	...	1	...	
INJURIES, GENERAL AND LOCAL.						
Burn ...	...	12	...	12	3	
Scald ...	...	1	...	1	...	
Contusions ...	...	20	...	20	...	
Abrasions ...	...	3	...	3	...	
Sprain ...	1	7	...	8	...	
Wound ...	6	117	1	123	2	
Multiple Injuries ...	2	17	...	19	1	
Dislocation Vertebra ...	...	1	...	1	...	
Contraction Finger ...	...	1	...	1	...	
Inanition ...	...	1	...	1	...	
Rupture Kidney ...	...	1	1	1	...	
Concussion Brain ...	1	...	...	1	...	
„ Spine ...	...	1	...	1	...	
Compression Brain ...	...	1	1	1	...	
Fracture Base Skull ...	...	1	1	1	...	
„ Scapula ...	...	1	...	1	...	
„ Humerus ...	...	1	...	1	...	
„ Radius ...	...	1	...	1	...	
„ Colles ...	...	1	...	1	...	
„ Finger ...	...	2	...	2	...	
„ Nasal bone Com- pound ...	...	1	...	1	...	
„ Ribs ...	...	1	...	1	...	
„ Leg ...	...	1	...	1	...	
„ Tibia and Fibula ...	...	1	...	1	...	
„ „ Simple Compound... ..	...	1	...	1	1	
„ Femur ...	...	2	...	2	1	
„ Simple ...	2	2	...	4	...	
„ Compound ...	...	1	...	1	...	
Snake-bite ...	...	1	...	1	...	
Crocodile-bite ...	...	4	1	4	...	
Dog-bite ...	...	1	...	1	...	
OBSERVATION ...	6	132	...	138	5	
NO APPRECIABLE DISEASE ...	...	2	...	2	...	
Total ..	358	5,872	600	6,230	265	

## LABUAN.

*Return of the Statistics of Population for the Year 1914.*

				Europeans.	Eurasians.	Malays.	Chinese.	Indians.	Other Nationalities.	TOTAL.
Number of inhabitants in 1914	...			39	30	4,603	1,823	184	67	6,746
„ Births during the year 1914				1	5	122	51	3	3	185
„ Deaths „ „ 1914				...	...	96	43	4	2	14
„ Immigrants „ „ 1914				...	...	...	...	...	...	...
„ Emigrants „ „ 1914				...	...	...	...	...	...	...
Number of inhabitants in 1913	...			38	25	4,577	1,815	185	66	6,706
Increase ...	...	...	...	1	5	26	8	...	1	40
or Decrease ...	...	...	...	...	...	...	...	1	...	...

*Meteorological Return for the Year 1914.*

			TEMPERATURE.					RAINFALL.		WINDS.		REMARKS.
			Solar Maximum.	Minimum on Grass.	Shade Maximum.	Shade Minimum.		Amount in Inches.	Degree of Humidity.	General Direction.	Average Force.	
			°F	°F	°F	°F	°F	Ins.	%			
January	...	...	72·6	85·0	75·8	9·2	80·4	2·19	81·0	N.E.		No instrument for recording.
February	...	...	73·0	86·1	76·0	10·1	81·0	1·62	80·0	N.E.		
March	...	...	73·2	87·6	76·7	10·9	82·1	4·13	81·0	N.E.		
April	...	...	72·7	89·3	77·1	12·2	83·2	4·71	82·0	N.E.		
May	...	...	73·1	89·9	77·9	12·0	83·9	11·35	81·0	S.W.		
June	...	...	73·0	88·6	77·4	11·2	83·0	7·97	82·0	S.W.		
July	...	...	74·0	88·8	78·2	10·6	83·5	6·41	82·0	S.W.		
August	...	...	72·8	88·3	76·1	12·2	82·2	12·42	82·0	S.W.		
September	...	...	72·6	87·5	76·8	10·7	82·1	9·21	81·0	S.W.		
October	...	...	73·0	88·7	78·0	10·7	83·3	6·03	82·0	S.W.		
November	...	...	73·6	88·5	77·2	11·3	82·8	9·78	81·0	S.W.		
December	...	...	73·5	87·6	77·0	10·6	82·3	6·23	81·0	S.W.		
Mean	...	...	73·0	87·9	77·0	10·9	82·4	82·05	81·0	...	...	



## LABUAN.

*Return of Diseases and Deaths in 1914 at the Labuan Hospital.*

DISEASES.	Remain- ing in Hospital at end of 1913.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1914.	REMARKS.
		Admis- sions.	Deaths.			
INFECTIVE DISEASES.						
Beri-beri ...	2	15	...	17	...	
Dysentery ...	...	2	...	2	...	
Gonorrhœa ...	...	5	...	5	I	
Gonorrhœal Epidydimitis ...	.	3	...	3	...	
" Arthritis ...	...	1	...	1	...	
" Warts ...	...	1	...	1	...	
Malaria, Benign Tertian ...	...	26	...	26	...	
" Sub-tertian ...	...	15	2	15	...	
" Quartan ...	...	1	...	1	...	
" Cachexia ...	...	2	...	2	...	
" Neuritis ...	...	1	...	1	...	
Syphilis, Primary ...	...	4	...	4	...	
" Secondary ...	I	6	...	7	I	
" Tertiary ...	I	1	...	2	...	
" Gummata ...	...	2	...	2	...	
DISEASES OF THE NERVOUS SYSTEM.						
Epilepsy ...	...	1	...	1	...	
Neuritis ...	...	2	...	2	...	
MENTAL DISORDERS.						
Delusional Insanity ...	...	1	...	1	...	
GENERAL DISEASES NOT INCLUDED IN THE PREVIOUS GROUP.						
General Debility ...	I	2	...	3	...	
Anæmia ...	...	1	1	1	...	
DISEASES OF THE EYE.						
Cataract ...	...	1	...	1	...	
Iritis ...	...	3	...	3	...	
DISEASES OF THE EAR.						
Double Otitis Media ...	...	1	...	1	...	
DISEASES OF THE RESPIRATORY SYSTEM.						
Laryngitis ...	...	2	...	2	...	
Pulmonary Tuberculosis ...	...	4	2	4	...	
DISEASES OF THE DIGESTIVE SYSTEM.						
Carcinoma Oesophagus ...	...	1	...	1	...	
Colic ...	...	5	...	5	...	
Diarrhœa ...	...	2	...	2	...	
Fistula in Ano ...	...	1	...	1	...	
Gastritis ...	...	1	...	1	...	
Hepatitis ...	...	1	...	1	...	
Indigestion ...	...	2	...	2	...	
Liver Abscess ...	...	1	...	1	...	
Pericolitis ...	...	1	...	1	...	
Carried forward ...	5	118	5	123	2	

## Return of Diseases and Deaths in 1914 at the Labuan Hospital.—Continued.

DISEASES.	Remain- ing in Hospital at end of 1913.	YEARLY TOTAL.		Total Cases Treated.	Remain- ing in Hospital at end of 1914.	REMARKS.
		Admis- sions.	Deaths.			
<i>Brought forward ...</i>	5	118	5	123	2	
DISEASES OF THE LYMPHATIC SYSTEM.						
Bubo ...	...	2	...	2	...	
Cervical Adenitis ...	...	1	...	1	...	
Lymphangitis ...	...	1	...	1	...	
Parotid Endotheleoma ...	...	1	...	1	...	
DISEASES OF THE URINARY SYSTEM.						
Cystitis ...	...	1	...	1	...	
Hæmaturia ...	...	1	..	1	...	
DISEASES OF THE GENERATIVE SYSTEM.						
Extravasation of Urine ...	...	1	1	1	...	
Stricture Urethra ...	...	1	...	1	...	
Tubercular Testes ...	...	1	...	1	...	
DISEASES OF THE LOCOMOTIVE SYSTEM.						
Arthritis ...	..	2	...	2	...	
Myalgia ...	...	1	...	1	...	
Osteo Arthritis ...	...	1	...	1	...	
Synovitis (knee) ...	...	2	...	2	...	
Syphilitic Arthritis ...	...	1	...	1	...	
Tubercular Caries Hip ...	...	1	...	1	...	
Tubercular Osteitis ...	...	1	...	1	...	
DISEASES OF THE SKIN.						
Boils ...	...	2	...	2	...	
Dermatitis ...	...	2	...	2	...	
Dermatitis Exfoliata ...	...	1	...	1	...	
Ulcers ...	...	7	...	7	...	
INJURIES ...		33	...	33	4	
PARASITES.						
Sand Flea ...	...	3	...	3	...	
Filariasis ...	...	1	...	1	...	
Ringworm ...	...	1	...	1	...	
MALINGERING ...	...	3	...	3	...	
FOR OBSERVATION ...	...	7	...	7	...	
NO DISEASE DIS- COVERABLE ...	...	1	...	1	...	
Total ...	5	198	6	203	6	

*List of Operations done at the Civil Hospital, Labuan, during the year 1914.*

DISEASES.	YEARLY TOTAL.		Total Cases Treated.	REMARKS.
	Admis- sions.	Deaths.		
OPERATIONS.				
ON BLADDER.				
Plastic Operation (Wound) ... ..	I	...	I	
ON LIVER.				
Incision Tropical Abscess ... ..	I	...	I	
ON URETHRA.				
Lithotomy (Wheelhouse) .. ..	I	* I	I	
ON GLANDS.				
Excision Endotheleoma Parotid Gland ... ..	I	...	I	
Incision Bubo ... ..	I	...	I	
ON CONNECTIVE TISSUE.				
Incision Abscess ... ..	I	...	I	
ON SKIN.				
Scraping Ulcers ... ..	2	...	2	
ON BONES.				
Removing Dead Bones ... ..	I	...	I	
ON JOINTS.				
Adjusting head of Humerus ... ..	I	...	I	
ON GENERATIVE ORGANS.				
Circumcision ... ..	I	...	I	
ON NECK.				
Plastic Operation (Wound) ... ..	I	...	I	
Total ...	12	I	12	

\* Died 18 hours after operation.